

## Book Reviews

**Arthur McIvor and Ronald Johnston,**  
*Miners' lung: a history of dust disease in  
British coal mining*, Studies in Labour History,  
Aldershot, Ashgate, 2007, pp. xviii, 355,  
£60.00 (hardback 978-0-7546-3673-1).

Coal mining is the classic dangerous trade. There are few, if any, occupations that have taken so many lives or caused so many injuries among its workforce. Mine collapses, explosions, suffocation and starvation of miners "buried alive" are just a few of the possible catastrophes that have caused suffering and pain among miners and their families in coal towns around the globe. But, the pain does not stop there. As McIvor and Johnston's elegant study details, even those that escape the immediate dangers of the pit are subject to years, even decades, of pain, laboured breathing and eventual death. The dust created by the picks, hammers, and especially the pneumatic tools that were introduced in the twentieth century crept deep into the lungs of the otherwise powerfully built, healthy workers, eventually incapacitating them, ruining their bodies and killing them. McIvor and Johnston relate the distressing story of towns where healthy young men are slowly transformed into hunched-over, crippled and diseased elderly. The various ways that dust affected these men is a testament to the evils of the mining system: silicosis, chronic bronchitis, coal workers pneumoconiosis (CWP), pneumonia, and tuberculosis all took their toll and were all identified by a variety of physicians, commissions, expert panels as the peculiar costs of Britain's industrialization. By the 1930s, one in twenty workers in Britain was a miner, yet miners accounted for 25 per cent of all workplace injuries and an untold percentage of industrial diseases in the UK. This text, sprinkled with moving testimony of workers themselves, tells us of the cost in lives

lost to Britain's industrial power, highlighting the centrality of the industry to British life.

The book begins with vivid descriptions of the mining process and the extraordinary changes in that process that, ironically, made work safer while it increased the disease burden that miners experienced. In brief, McIvor and Johnston describe nineteenth- and early-twentieth-century mining practices where narrow seams, often only 18 inches wide, were pecked away with hand tools by extremely fit men. The build up of gases and the inadequate ventilation systems precluded any but the most minimal light and increased the likelihood of accidents.

Work conditions were marginal at best in most mines. While government regulations were occasionally passed, lax enforcement and owners' resistance led to dangerous conditions. In constant danger from collapses and explosions, the safety of miners was largely in their own hands. Miners depended on each other, creating a solidarity that translated into a strong union and community cohesion, factors that would play an important role in spurring government and doctors to focus on disease in later years.

The book neatly details the ways that the transformation of the work process directly impacted on the health of the workforce. Beginning in the early twentieth century, mines gradually went through a dramatic transformation as pneumatic picks and hammers, and mechanical grinding devices, replaced the handheld tools of earlier generations. Larger shafts where machinery could be placed and where workers could actually stand up, rather than work hunched over or prone, led to an improvement in the physical conditions underground but increased workers' exposure to the finely divided dusts created by the powerful, high speed tools.

For the medical community throughout the first half of the century, a common assumption

was that coal-dust *protected* workers from tuberculosis and other lung diseases, and that the major sources of illness were environmental (i.e. not work related) or silicosis. Slowly the idea that coal-dust protected the workforce was replaced. Coal-dust came to be seen as an irritant and, eventually, the power of the coal workers' union pushed clinicians and government officials to see silica and coal-dust itself as causes of disease.

The end of the Second World War was a crucial period in the identification of dust as a serious problem. The nationalization of the coal industry, the passage of pro-labour legislation, the inclusion of pneumoconiosis into Workmen's Compensation in 1943, the growth in power of the coal workers' union, all led to a dramatic increase in the number of identified pneumoconiosis cases in the post-war period. Following the war, a combination of a revived industry, a new government, and the rise of social medicine also led to a serious re-examination of the number of miners suffering from this disease. Archie Cochrane and other leaders in social medicine allied with the labour unions to detail the dangers of mining and to document the effect of disease on the workforce, the families and the mining communities alike. Unlike the United States where the Cold War, the resulting conservative political environment and a conservative medical community had ended physician interest, during the 1950s the UK experienced an explosion of interest in the variety of lung diseases that affected the miner.

Throughout the rest of the twentieth century a variety of commissions sought to tease out the reasons for miners' lung diseases. In part, this effort was the result of the enormous social and financial implications of identifying the "causes" of disease in the workplace. Those illnesses that were identified as occupational in nature were necessarily an indictment of working conditions in the mines and therefore were directly or indirectly the responsibility of the government which had nationalized the mines in 1946. But, those conditions, such as bronchitis, pneumonia, and

tuberculosis, commonly identified as environmental illnesses, were perceived as the responsibility of the miners themselves. Throughout the 1980s and 1990s medical opinion was partially shaped by the social implications of the definitions of occupational disease. The question of who was responsible for the diseases identified with mining had huge political and economic implications. It was only at the end of the century, after the death of mining in the UK, and the death of untold numbers of miners, that the distinctions between those diseases that would be compensated and those that would not was laid to rest and bronchitis and emphysema were incorporated into the compensation schedules. Between 1998 and the 2004 deadline when miners suffering from bronchitis and emphysema could register for compensation from British Coal, 570,000 claims had been made.

There are few heroes in this book other than the workers themselves. In some communities, labour, the authors point out, played an ambiguous role in protecting their own, often worrying about the impact on wages, employment levels and even the costs of rehabilitation as reasons to underestimate the extent of disease. Government officials worked at cross purposes in their efforts to keep coal production up while addressing the horrendous conditions under which miners worked. Even the culture of the mining communities themselves sometimes worked to undermine attention to CWP, silicosis and other related lung conditions as mining communities prioritized job security, wages and family cohesion over health. Stoicism and the development of a culture of manliness were effective tools in reducing tensions over health between management and workers, as well as maintaining the productivity of the mines. Dust was something miners learned to live with, whether or not their long-term health, their communities and even their lives were sacrificed.

This is a powerful account of the social conditions and intellectual traditions under which disease is identified—or not, as the case

may be. Filled with moving testimony of the workforce itself, there is a poignancy that reflects the sympathies of the authors and the suffering of the people they interviewed. Workers were sometimes incidental to the needs of a ravenous economy, eager for the coal that powered the birth and rebirth of industry. In light of this, we find that people themselves were sacrificed, sometimes knowingly, sometimes not. The elaborate century-long intellectual rationales used to “distinguish” the environmental and occupational “causes” of lung disease was, in many ways, a distraction from the reality that dust in the mines killed. The technical discussions detailed in this fine book are, in a way, a terrible indictment of the professional as well as the political community.

It is impossible for this American reviewer not to comment on some of the similarities as well as the differences between the experience in the UK and the US. In general, the history of lung diseases among miners is remarkably similar in both countries: the transformation of work, the debates over responsibility and risk, the ways that the epidemiology of lung diseases were subject to the changing political winds all resonate with this writer. Gerald Markowitz and I have detailed a similar story in our own book, *Deadly dust*. But, there are differences as well that, while too much to go into here, are important to identify. Perhaps the most important is the fact that in the UK the reality of a strong labour movement, a central government that reacted to the demands of labour and a medical community of politically engaged physicians ready and eager to aid the workforce itself led to a continuous attention to pneumoconiosis and lent legitimacy to the experience of the labourers. Whatever the political machinations that continually reshaped and delayed remedy, this alone is important. In the US there were decades during which barely anyone paid attention to the suffering of miners and their families. While black lung legislation was eventually passed, silicosis was rarely mentioned after the 1940s and was assumed to be a disease of the past. It was only in the

1990s after the end of the Reagan and Bush I presidencies that government formally recognized that pneumoconiosis still ravaged large numbers of people. Today, there is an effort once again to tuck this disease away, to relegate it to a cabinet of curiosities, far from the gaze of public health or labour officials. Hopefully, this excellent book and other work will not allow us to forget the steep price the workforce pays for our economic prosperity.

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**E P Hennock**, *The origin of the welfare state in England and Germany, 1850–1914: social policies compared*, Cambridge University Press, 2007, pp. xvii, 381, £55.00, \$99.00 (hardback 978-0-521-59212-3), £19.99, \$35.99 (paperback 978-0-521-59770-8).

Future historians may judge the key moment of New Labour’s stewardship of the NHS to have been Tony Blair’s pledge, on 16 January 2000, to raise British health expenditure to the level of the European Union average. But how was it that the NHS, once celebrated for its economy, now stood revealed as excessively parsimonious? As Peter Hennock’s new book shows, to understand this we need to look beyond recent policy to more distant history. Indeed, the reasons why British social expenditure has so often been “restrictive”, in contrast to the more “expansive” (p. 345) welfare states elsewhere lie with decisions taken a century ago.

Although it does not break major new ground in terms of primary research, this text is a substantial addition to the historiography of the welfare state. Hennock has developed a distinctive methodology founded upon the comparative study of England and Germany, which he uses to illuminate the unique features of each. Public health historians will already be aware of articles demonstrating the value of this approach: his analysis of smallpox vaccination programmes in the two countries,

which illustrated the greater effectiveness of compulsion in driving down death rates, and his comparison of their two sanitary movements, with their respective impacts on trends in mortality from enteric diseases. Now comes the full length work on the establishment of their welfare states.

Starting with a comparison of the poor laws from the mid-nineteenth century (with the pre-unification emphasis particularly on Prussia), the book then examines the coming of industrial injury legislation. Here a key contribution is Hennock's exposition for non-German readers of the latest findings on Bismarck's motives for promulgating accident insurance (the foundation stone of the welfare state). Previous scholars emphasized the Iron Chancellor's aim of heading off working-class support for socialism by offering welfare benefits. However, recently published papers demonstrate this was not the original goal, even though it figured in the accompanying political rhetoric. Instead Bismarck sought to aid German business by replacing the costly and unpredictable industrial injury laws with a simplified contributory insurance scheme, so that the red tape of workers' compensation would no longer impede entrepreneurship. Thus we must now think of the welfare state at its moment of conception not as a legitimizing strategy, but rather as a device enabling the smoother running of industrial capitalism.

Medical historians will be most interested in Part III of the book, where Hennock deals with sickness insurance and pensions. He shows how, with accident insurance now compulsory across Germany, momentum grew for a uniform system of sickness insurance; again this was a business-friendly move, aiding the mobility of labour and the "autonomy of employers" (p. 158). Coverage rose dramatically after compulsion was introduced in 1883, building on the pre-existing provident and industrial funds. The German commitment to graduated levels of contributions and benefits was established early on, and differentiation according to wage levels also figured in the pension arrangements, tying in the better paid workers

to the system. In Britain however, the policy was driven not by the promotion of economic development but by the concern to alleviate poverty. Here the path was determined by the extraordinary prior success of the friendly society movement in extending voluntary sickness insurance to millions of workers. Features such as the flat-rate contribution were carried over into the state scheme and minimal levels of sickness benefit and old-age pension were favoured, so as not to discourage voluntary savings. Similarly, it was the scale of provision and expenditure under the poor law which provided the precedent for the tax-funding of pensions and public health; in Germany the empire's tax reach was less extensive, making contributory insurance the only viable option. Hennock uses the case of tuberculosis treatment, which was quickly taken out of the British national insurance scheme, to illustrate the early preference for tax-funding over insurance where uniform health provision was desired.

After a final section on unemployment policies, the conclusion synthesizes the key features of the comparison and draws out the long-term implications. The distinction turns on Germany's early embrace of earnings related contributory insurance to fund its welfare state, and its greater use of compulsion. It also had a more comprehensive range of benefits, for example including hospital coverage within its health insurance scheme. England meanwhile adopted flat-rate contributory insurance with more limited health and unemployment benefits, and funded pensions, again at a minimal level, through general taxation. Shying away from compulsion, it sought (from Lloyd George, to Beveridge, to Thatcher) to leave scope for voluntary savings, a calculation which has proved unrealistic and contributed to high levels of old-age poverty. Similarly the dependence of the NHS on income from taxation is rooted in past practice and has delivered lower levels of funding and poorer outcomes than in countries with social insurance, as Germany's more flexible system demonstrates.

A few caveats may be entered, so that readers approach the book with appropriate expectations. First, despite the protean subject matter there is a heavy reliance on the work of several key historians like Florian Tennstedt, Noel Whiteside and Bentley Gilbert, and various more minor or recent contributions which might gloss (though not alter) the narrative have been omitted. Second, although the book provides rich pickings for path dependency theorists, this is not a conceptual approach which Hennock fully embraces (p. 340), concerned as he is to give full play to contingency and individual agency. Third, the concentration on only two countries lacks the broad sweep of other cross-national comparisons of welfare states, and Hennock is rather disparaging about purveyors of the genre, “filling in the blank spaces in a pre-determined framework” (p. 4) and being “more interested in inventing labels than in historical accuracy” (p. 200). Instead he demonstrates the nuance, depth and fine-grained analysis which his chosen method can deliver. The book is a master class in comparative history, which will surely inspire future scholars to follow in his footsteps.

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**Susan Gross Solomon** (ed.), *Doing medicine together: Germany and Russia between the wars*, Toronto and London, University of Toronto Press, 2006, pp. xvii, 533, illus., £42.00, \$65.00 (hardback 978-0-8020-9171-0).

From its opening sentences, *Doing medicine together* appears self-evidently as an ambitious collection of essays exploring the multi-textured ties between Russian and German medicine and public health from 1919 to 1939. Thick with acronyms of Soviet and German institutions, bristling with hundreds of fleeting individuals, speckled with footnotes that ought to be read, and dusted with a layer

of Russian and German phrases, Susan Gross Solomon’s splendidly edited, extraordinary book is not for the faint-hearted. It demands diligence and perseverance, especially for the non-expert on contemporary Soviet–German history. It is worth the effort.

There is now a vibrant scholarship in general, world, and global history analysing political and economic bilateral relationships between nation states. This trend has found comparatively less vogue in the history of medicine and science, where it usually appears only under the rubrics of internationalism, imperialism, colonial studies, or most recently studies of forced migration. While works by Ilana Löwy, Peter Galison, Susan Leigh Star, and John Pickstone have advanced comparative national studies of science and medicine theoretically, few historians have actually demonstrated through substantial archival research the ways cross-national and cross-cultural currents shaped the development of medicine and science. Hence, *Doing medicine together*. Through its eleven case studies this volume considers the complicated political-economic landscapes that characterized Rapallo-era Soviet–German relations, while also successfully establishing four historiographic frameworks for understanding the role of bilateralism in the national patterns of science and medicine.

The volume’s four sections are organized around themes that include friendship, entrepreneurship, internationalist versus bilateral motivations, and migration to the “Other”. The opening chapters by Paul Weindling, Marina Sorokina, and Michael David-Fox analyse the process of choosing medico-scientific friends. As these authors make apparent, this practice was, on the one hand, riddled with thinly veiled ambitions for personal prestige and international scientific stature, and on the other, unsurprisingly fraught by ideological suspicions commensurate with Communism in Russia and growing ultra-nationalism in Germany. Individuals and institutions alike thus found themselves tied to dual cultural and intellectual agendas: aims and agendas

articulated abroad necessarily fit within political and cultural values at home. Yet, domestic interpretations—whether in Germany or Russia—might, and often did, weaken bilateral linkages.

For the scientific entrepreneurs voluntarily situated within these consequently complex systems of intrigue and patriotism, the personal quest for medico-scientific knowledge and prestige required the ability to build institutions, networks of power, and new disciplines. Simultaneously, they had to assert the propriety of their actions to sceptics in both countries. Elizabeth Hachten, Wolfgang Eckart, Susan Gross Solomon, and Sabine Schleiermacher, expand upon this second framework, and use the enigmatic career of the German bacteriologist, hygienist, medical geographer, amateur historian of medicine, and “relentless self-promoter” Heinz Zeiss (p. 182) to illustrate the way entrepreneurial behaviour created fascinating contradictions. Zeiss, a right-wing nationalist, used various boundary objects, such as his access to the German-developed anti-trypanocidal Bayer 205, to build scientific networks within the Soviet scientific establishment. These networks eventually brought him considerable opportunities, including the ability to conduct field studies in the mainly trans-Volga region. They also provided him with access to German and Soviet patronage. Zeiss relied heavily on these networks as he attempted to create spaces for the new discipline of medical geography in Russia. Though working with entrepreneurial zeal, Zeiss’s rationales for the new field predictably resulted in two distinct conversations and ultimately the failure of his project. His “sales-pitch” for medical geography in the Soviet Union missed its mark, chiefly because he did not fully comprehend the institutional ecology of Russian academic science and medicine. What is more, his conversation in Germany, laced with patriotic sentiment and rich with right-wing overtones of cultural policy, left him open to various charges, the best of which was probably hypocrisy. His delicate balancing act between nationalist

excess and entrepreneurial relativism was probably sufficient grounds for his eventual expulsion from Russia in 1932.

Zeiss was a representative medico-scientific entrepreneur. Indeed, many German (and probably Russian) scientists and physicians found that bilateral connections provided opportunities to test scientific hypotheses, pursue new lines of inquiry, and even find employment. Yet bilateral connections offered more. Increasingly, the 1920s and 1930s saw the rise of a new scientific internationalism that created a resulting dichotomy between national pride and international camaraderie. As this third framework reveals, Germany and Russia, both pariahs in the global scene, found themselves partnered in the geo-cultural dance that was international science politics. Theirs was an unlikely pairing. As the splendid chapters by Jochen Richter and Nikolai Kremontsov record, the growing popularity of racial pathology and hygiene in interwar Germany placed the Soviets in the embarrassing position of reaching out to German expertise even as they publicly rejected much German medico-scientific theory.

Such rejections eventually severed most bilateral arrangements by the mid-1930s. The rise of German Fascism, however, marked one final arena in which bilateral relations manifested. The German doctrine of racial purity, as well as the country’s antipathy towards political Leftists, meant that numerous scientists and physicians found their home an increasingly unwelcoming environment. Those who could left for other countries, including the Soviet Union. The final chapters by Ulrike Eisenberg and Carola Tischler detail various conditions of forced-migration to the “Other”, the final framework considered in this volume. Despite a decade of close collaboration between the two countries, these chapters indicate that German physician-émigrés did not find a completely warm reception in their newly adopted country. Moreover, they seem to have been unprepared for the realities of Russian Communism.

*Doing medicine together* is a sophisticated examination of science and medicine cast in



global terms, and it is an exemplary work of scholarship. Thus, even its limitations offer instructive lessons for historians engaged in similar methodologies. Although the chapters by Sorokina, David-Fox, and Krementsov give some flavour of the Russian side of this story, the volume focuses more on Germans in Russia than the reverse. This is partially an artefact—one third of the volume focuses on Zeiss's activities in Russia. Yet, this imbalance raises important questions. Were Russian scientists and physicians prevented from going abroad? If they left Russia, did they return home? Did they cultivate international friendships? Could they be "entrepreneurial"? Can that framework even apply to individuals or institutions from centrally planned economies? Did the rise of Communism ever lead to the migration of Russian scientists and physicians to Germany? Balanced transnational histories demand answers to such reciprocal questions, and this volume does not fully rise to that challenge.

Obviously, the authors of this ambitious volume could not probe every problem or ponder every silence. Yet the depth of their sources indicates another difficulty arising from analysing transnational relations. It is not enough to know that actors and institutions are engaging in different conversations. Rather, those incomplete and often contradictory conversations exist within at least two fully formed contexts. The nuances of those contexts are difficult to develop adequately in writing, yet that development is crucial as it reveals the ways that political and economic forces shaped policy developments in medicine.

Finally, although individuals and institutions re-emerge as the locus of transnational science and medicine, it is important to recognize that their work was comparatively superficial and insignificant. Transnational studies fascinate precisely because what they reveal to us about the development of national styles of science and medicine remains unclear.

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**Neil Chambers** (ed.), *The scientific correspondence of Sir Joseph Banks, 1765–1820*, 6 vols, London, Pickering & Chatto, 2007, total pages: 2823, £595.00, \$995.00 (hardback 978-1-85196-766-7).

Even during his own lifetime, impressions of Joseph Banks (1743–1820) diverged widely. Although celebrated in the popular press as the dashing young explorer who had sailed to Australia with James Cook, Banks was caricaturized by disaffected critics at the Royal Society as a bumbling virtuoso who refused to recognize—let alone understand—the significance of mathematical physics. Whereas James Boswell remarked that Banks resembled a placid elephant who would allow you to play with his proboscis, harsher colleagues accused him of coarse behaviour and sycophantically ingratiating himself with George III.

After his death, other versions of Banks proliferated, continually tailored over time to fit various political ends and historiographical trends. Victorian modernizers tried to make themselves look progressive by dismissing him as an old-fashioned autocrat, but although they effectively suppressed his memory in Britain, Banks was revived in the early twentieth century as the Founding Father of Australia, where his publicity value as the nation's first scientist still outweighs critiques of his involvement in the early penal settlements. Australian biographers have repeatedly argued that, despite his minimal publication record, Banks played a crucial role in science's history because of the administrative innovations he introduced at home and abroad during his forty-two year reign as President of the Royal Society. The definitive cradle-to-grave account remains Harold Carter's detailed tome of 1988, which extolled Banks's domestic influence and international achievements; since then, other scholars—notably David Miller and John Gascoigne—have presented more nuanced analyses demonstrating Banks's systematic strategies for consolidating the authority of the Royal Society and forging a mutually

beneficial alliance between science, state and empire. Now that globalization has become a historical buzzword, Banks is emerging as a key figure in imperial expansion whose powerful grip extended around the world.

Banks was a prolific writer, sending out an estimated 40,000 letters and receiving back perhaps 60,000. Often enclosing plant and mineral specimens (with occasional gifts of “Excellent Biscuits” or “2 brace of Grouse”), his correspondence covered an extraordinary range of topics, reflecting Banks’s influential engagement in scientific politics, agricultural reform and industrial innovation both in Britain and overseas. Sadly, even though he maintained a meticulous filing system, Banks’s papers were dispersed and selectively destroyed, so that now only around 20,000 survive, scattered throughout the world in public libraries and private collections. Reduced to around a quarter, these letters, nevertheless, offer an exceptionally rich resource for studying the global transformations that took place in the decades around 1800. Historians were delighted when in 1989, Carter established the Banks Archive Project at the Natural History Museum, with the aim of copying and cataloguing all the existing letters to make them readily accessible.

The first product of the Project’s ambitious long-term programme was a taster volume of 137 letters, edited by the Museum’s Neil Chambers, and designed to indicate the changing patterns of Banks’s interests over his long life. The most recent publication, also edited by Chambers, is a six-volume edition reproducing 2215 of Banks’s scientific papers. Arranged chronologically, these letters have been transcribed from over a hundred archives, and most of them have never been published before. For consistency with earlier publications, Chambers has broadly adopted Carter’s editorial principles, although he has introduced some substantial improvements. Most importantly, Banks’s erratic spelling and breathless punctuation are here faithfully reproduced, along with deletions and insertions, as well as full details of addresses, greetings and endorsements.

One immediate reward of this new collection is being able to see at a glance the sheer variety of matters with which Banks dealt on a daily basis. Within just a few weeks around the end of 1780, Banks was complaining about the rent arrears being run up by his tenants, explaining why he refused to believe that ants use tools for moving large weights, worrying about the legality of changing the Royal Society meeting times, and learning about the unfortunate man who coughed up a live toad he had unknowingly ingested several weeks earlier with some watercress. Nearly forty years later, despite battling against chronic gout, Banks was still preoccupied with an immense breadth of problems, including cabbages frozen by exceptionally bitter frosts, delays in exporting an alabaster sarcophagus from Egypt, the latest experiments on polarized light, and Dutch rivalry in Asia.

As well as staying in touch with close colleagues, Banks negotiated with unknown correspondents all over the world. Eminent figures such as Benjamin Franklin, William Hamilton and William Herschel feature among his regular contacts, but this collection includes many less distinguished correspondents who sent in not only reports of experiments or unusual events, but also requests for advice or pleas for help. Appearing particularly often in this collection is Charles Blagden, Banks’s major aide at the Royal Society; the 314 letters printed here reveal fluctuations in the two colleagues’ personal relationship as well as their combined impact on scientific affairs.

Unfortunately, although Chambers’ six-volume edition is extremely welcome and has many excellent features, its value is limited because the guidelines set up by Carter some twenty years ago still dominate the Project’s publishing strategy. Carter himself had already produced *The sheep and wool correspondence*, and he decreed that subsequent collections should also be organized thematically into supposedly mutually exclusive categories such as Political & Diplomatic Matters, Agriculture & Horticulture, and the Middle East & Africa.



As Chambers implicitly acknowledges in his introduction, sorting documents by such anachronistic criteria restricts the possibility of pursuing modern analytical concerns. The letters he has chosen are “scientific” only in the relatively narrow sense that they contain copious details of experiments, collections and observations. Fascinating as many of them are, they do not necessarily reveal how Banks meshed exchanges of information with his political and commercial ambitions. This renders the collection of limited value for pursuing research into current or future scholarly preoccupations such as globalization.

For example, on 10 June 1799 (letter 1512), Banks sent off a review of experimental procedures for preparing sweeteners from carrots or beetroot, which he suggested might provide viable alternatives to sugar. This letter appears less straightforwardly “scientific” when juxtaposed with one that Banks had despatched only two days earlier to the same recipient, Lord Liverpool, then an elderly but still influential politician. The earlier letter makes clear the complexities of “science” at this period, yet although reproduced in Chambers’ shorter chronological survey, it does not appear in this thematic collection: appreciating the closeness of the dates entails searching both publications. Banks started by emphasizing the commercial benefits of scientific research: “An expenditure, apparently considerable, must however be encountered in the outset; but as Science has never yet been applied to the search of Gold carried down by Torrents . . . I feel sanguine hopes that the produce of that valuable Metal may . . . be increased in Africa to almost any given extent.” A leading committee member of the African Association, Banks then spelled out the close links between scientific exploration and imperial expansion: “the first step of government must be to secure to the British Throne, either by Conquest or by Treaty, the whole of the coast of Africa from Arguin to Sierra Leone.” Banks also justified what he called an “Experiment” by claiming that a British-run trading company would

“govern the Negroes far more mildly” than “the Tyranny of their arbitrary Princes”. However genuine his desire to improve the lot of resident Africans, when read together, these two closely-dated letters do suggest that Banks’s comments on beetroot were related to his interests in supporting the West Indian plantations, whose massive sugar output contributed to the profitable circulation of gold and slaves that supported British manufacturing industries.

Another disappointing aspect of these six volumes is the index. An irritating practical problem arises from the decision to refer to letters by their sequential number, rather than by the volume in which they appear. Since neither the dates nor the numbers of the letters appear on the outside of the books or even their title pages, locating a particular item can take some time. More fundamentally, searching for particular topics is difficult because virtually all the index entries are names of people, countries or organizations. No rationale is given for the few exceptions—ballooning, inoculation, Peruvian bark (a single mention in one short letter) and steam power. Although many medical topics are touched on in this correspondence, picking them out will not be easy.

The next two sets of volumes will be on Iceland (to appear in 2008, according to a Museum web-site of October 2007) and on the Pacific. Although there are clearly many “scientific” letters that could also be classified on a regional basis, such overall organizational decisions may well have been the best to make two decades ago. Chambers gives no indication of any plans to digitize the Banks correspondence, but viewing the Project from the outside, it would seem sensible to consider abandoning Carter’s original scheme, which relies on expensive thematic print publications, and to contemplate publishing the entire correspondence digitally with effective search facilities. Funding has been a major constraint since the Project’s inception, and its publications owe much to the dedicated commitment of scholarly editors. The Natural History Museum deserves much praise for

making Banks's splendid correspondence more readily accessible. Despite their limitations, these six volumes offer entertaining reading as well as a rich resource for future scholarship.

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**Katharine Park and Lorraine Daston**

(eds), *The Cambridge history of science: vol. 3, Early modern science*, Cambridge University Press, 2006, pp. xxvii, 865, illus., £90.00, \$160.00 (hardback 978-0-521-57244-6).

What are Cambridge Histories for? They go back to *The Cambridge modern history* planned and initially edited by Lord Acton (1834–1902) though he did not live to see the first volume published in 1902. It appeared at a time when most Anglophone historians believed that all the major facts of history could be encompassed within the boards of thirteen volumes and that they demonstrated the progressive triumph of liberalism. Times have changed; many multi-volume Cambridge Histories have since been published ranging from Christianity and Literary Criticism to Russia, Turkey, Libraries and now the History of Science in eight volumes. Placed neatly on the open access shelves of national and university libraries, such histories convey a sense of authority which means that they are consulted by scholars in other disciplines seeking apparently easy access to the subject.

In reality, in our post-modern world, these volumes of collective effort, like any other text, provide a selection that reflects the interests, knowledge, prejudices, etc. of the editors and individual contributors. And this volume, of course, cannot by any means represent the sum totality, *pace* Acton, of what is known about science in the early modern period defined as “from roughly 1490 to 1730” (p. 1), that is from the voyages of Christopher Columbus to the death of Isaac Newton. Although some of the contributors, such as

Steven Shapin, seek to rise above the Whig origins of the genre of the Cambridge Histories, there is nevertheless a sense in the volume of looking forward to what comes after, perhaps best encapsulated in the heading ‘The artist as scientist’ (p. 786) for the discussion of Leonardo da Vinci (1452–1519) by the art historians Carmen Niekrasz and Claudia Swan—this is surely something that the editors should have picked up following Shapin's critique earlier in the volume of such anachronistic usage.

The volume is divided into four parts, the first dealing with the ‘New nature’ followed by discussion of personalities and sites of natural knowledge. This part includes some of the most interesting chapters such as William Eamon on ‘Markets, piazzas, and villages’, Bruce Moran on ‘Courts and academies’, and an especially excellent piece by Adrian Johns on ‘Coffeehouses and print shops’. The third part is entitled ‘Dividing the study of nature’. Despite having some good pieces, the title immediately raises the (unanswered) question of whether it is historically appropriate to divide natural philosophy, astronomy and astrology into three separate chapters, or natural philosophy from mechanics. Such divisions do not lend themselves to the understanding of the place of natural knowledge in contemporary society and culture and may obscure links. What happens, and William Donahue's chapter on astronomy is a particularly good (i.e. bad) example, is that history becomes the study of the relations between texts across time, rather than the study of the relationships between practitioners across geographical, social and cultural space.

The tendency of this volume to split knowledge apart becomes most marked in the fourth and final section ‘Cultural meanings of natural knowledge’. I do have to wonder whether having a set of chapters at the end of the book entitled simply ‘Religion’, ‘Literature’, ‘Art’ (music is treated as part of acoustics), and ‘Gender’, ending up with a piece on European expansion is the best way of discussing the place of natural knowledge

in the sixteenth and seventeenth centuries. Much scholarly work has been done over the past few decades showing how knowledge of nature, including mathematics (closely related to both art and music, not to mention accountancy), fitted in as part of overall culture. The approach adopted in this volume appears to be veering away from that fruitful path.

The neglect in this volume of such significant recent historical work, mostly undertaken in Europe, may well be a consequence of its being published by the New York office of Cambridge University Press and because both the editors and twenty-five out of the thirty-four contributors are American (other volumes in the series are more representative of the geography of scholars). This is not merely a nationalistic point, but one that is crucial to the development of the history of science in America which was, and still is, heavily influenced by the positivistic legacy of George Sarton (1884–1956), widely taken to be the founder of the discipline in America. Referred to approvingly in the General Preface, Sarton also planned an eight-volume history of science inspired by the Cambridge Histories. At one level the Whig notion of progressive improvement over time, embodied in *The Cambridge modern history*, and the positivist idea of the development of society through its three stages have much in common. Such commonalities may account for the way in which they are both combined in the structure of this volume and also in some of the contributions. Yet, as I have indicated, there are other ways of doing history of science, some of which are illustrated here. But, as a whole, the volume does not, in my view, provide a proper representation of where we are in the history of science in the early modern period and a non-specialist would be well advised also to consult other texts.

Frank A J L James,  
Royal Institution

**Eilidh Garrett, Chris Galley, Nicola Shelton and Robert Woods** (eds), *Infant mortality: a continuing social problem. A volume to mark the centenary of the 1906 publication of Infant mortality: a social problem by George Newman*, Aldershot, Ashgate, 2006, pp. xvii, 293, £55.00 (hardback 978-0-7546-4593-1).

As its sub-title states, this collection of essays is a cumulative reflection on the themes of George Newman, the first Chief Medical Officer to the Ministry of Health's 1906 seminal investigation into infant mortality. As the first part of the title suggests, however, it also aims to draw attention to how far his concerns as to the geographic and socio-economic differentials in infant mortality continue to be upheld with more detailed analysis. The contributions are uniformly high in quality, and form an admirably cohesive whole. Taken together, they provide a commentary on different aspects of Newman's work, contextualized by two chapters on Newman himself. Significant nuances are provided to his general conclusions, especially on the rural/urban division in infant mortality rates (IMRs). The book ends with several chapters with a modern and forward-looking stance, which highlight the need for ongoing concerns as to inequalities in infant health in modern Britain.

Newman's 1906 *Infant mortality: a social problem* was not a path-breaking analysis. Rather, as the first chapter by the editors and the second and third by Chris Galley and Robert Woods respectively point out, its strength came from its drawing together of writings and current thought on IMR. It was published at a time when infant mortality was becoming a high profile area of investigation, and it was immediately influential. Its main thrust was to identify ways in which infant mortality might be lowered; a pertinent concern given the persistently high death rate of the young compared with other age groups (although Newman's work actually appeared as it was beginning to enter its period of dramatic decline). He identified several

significant themes for infant survival which are taken up in the current book: the impact of local factors; the significance of infectious disease, in particular diarrhoea; the relevance of socio-economic status; and the importance of the mother's role.

The current book is strongest on the regional nature of infant mortality, and the way that it interacted with local environmental, employment and socio-economic conditions. In particular, Sam Sneddon (studying rural Lincolnshire), Tricia James (Northamptonshire), and Eilidh Garrett (Kilmarnock and Skye), uncover sub-regional nuances unappreciated by Newman. These studies show that the traditional high urban/low rural IMR regime has been over-emphasized, and that local female employment markets, access to healthcare officials and socio-economic status were all important. Richard Smith and Jim Oeppen, in an impressive synthesis of previous and new work, also demonstrate that the relationship between the IMR and living standards "remains far from clear" (p. 65), that high IMRs have been found for affluent areas, and that certain trends in mortality have held true across social classes. Graham Mooney and Andrea Tanner highlight this discrepancy via the deprived and high mortality area of Notting Dale in Kensington. Here, projections of moral worth (especially of mothers) shaped the provision of welfare support for infants, although charity-supported crèches seem ultimately to have provided the means for mothers to continue working without compromising the health of their babies too much.

The least investigated aspect of Newman's thesis, although the most contentious for historians, is his emphasis on the role (and therefore blameability) of mothers in raising infants successfully. Although several authors note the impact of female employment (for example, Sneddon, James, and Mooney and Tanner), Alice Reid is the only one to overtly engage with the notion of maternal responsibility. She also most explicitly considers paths of causation; a topic left

somewhat glossed over in some of the other chapters. In her statistical study of health visitor records for early-twentieth-century Derbyshire, she stresses the significance of early visiting for the survival prospects of the most vulnerable infants, and also the role of health visitors in educating women in methods of artificial feeding (notoriously pernicious for infants) and in promoting delayed weaning. Newman's emphasis on the importance of female education is at least partially upheld, although the overtones of blame are clearly distasteful to all the authors who mention it.

The final section of the book engages with modern data, which considerably raises its impact. Chapters by Danny Dorling and Yvonne Kelly draw attention to ongoing differentials in access to resources, with a continued urban penalty still evident, and a north-south divide. Once again, the debate is moved on from Newman's standpoint, for example, introducing the impact of policy planning and ethnic differences on infant mortality. Nicola Shelton's concluding chapter sensitively reviews the need for further consideration of differentials in IMRs in modern Britain, and the ongoing significance of many of Newman's conclusions. All three chapters in this final section stress the potential for further reduction in IMRs.

While the book's clearest strength is its concentration on local regimes and the need to soften the weight given to the urban/rural divide in IMRs, it does achieve what it sets out to do on a more general level. All the chapters are contextualized by Newman's ideas, and offer a range of perspectives on how to move them forward. The role of developments in medical care and treatment is still relatively absent, as both Woods and Shelton note for Newman's own work, although Eric Hall and Michael Drake specifically take up his focus on diarrhoea as a killer of infants, and both they and Garrett do highlight the role of local medical officers on the picture we receive of mortality patterns. There is, however, a sensitive awareness of the significance of other factors Newman did not have the expertise or data to consider (including female

work patterns, problems of access to doctors and registration facilities, and local housing, education facilities and even weather). There is also a clear emphasis on modern policy applications and the need for ongoing reflection on how to improve IMRs. The combination of sophisticated local historical studies with reflections on modern applications raise this book's appeal, and give it significant interest value for historians, sociologists and social policy experts.

Alysa Levene,  
Oxford Brookes University

**Milton J Lewis**, *Medicine and care of the dying: a modern history*, Oxford University Press, 2006, pp. 277, £19.99 (hardback 978-0-19-517548-6).

The aim of this book is to deepen our understanding of the relationship between medicine and the care of the dying through reference to its internal history, and by taking account of the broader context. Following an Introduction which deals with funding issues, the growth of government interest in health care, and the emergence of hospices, the book covers the rise of the religious and the medical; the rise of modern medicine; cancer as an example of the strengths and weaknesses of a research imperative; the diffusion of the theory and practice of palliative care; the emergence of effective methods of pain control; and the changing meaning of euthanasia. In a treatment that is both broad-ranging and detailed, Lewis looks at five countries: the United Kingdom; the United States; Canada; Australia; and New Zealand.

Backed up by twenty-three pages of tightly packed references, Lewis sets his history within the context of broader conflicts to do with the rise of medicine and the decline of religion, and within medicine itself, between on the one hand a research imperative, with its implicit goal of overcoming death, and on the other, a clinical one, to treat death as part of life, and make the process of dying as

tolerable as possible. Part of Lewis's argument is that central to this conflict is the rise of scientific medicine and the decline of religion; many Anglo-Saxon countries are marked by a moral and religious pluralism that breeds controversy over such issues as euthanasia. Lewis argues that modern medicine has put the cure of the body before the care of the body. The metaphysical heritage of dualism and reductionism has become more problematic in the modern age, but at the same time, knowledge has been increasing so rapidly that it has become more difficult to develop a unified secular world view. This arguably renders the search for meaning, on the part of the dying, very difficult.

Nevertheless, despite this central thesis, in other respects the book is less successful, covering so many different issues, and reading a bit like a literature review. With the five different countries providing case-studies, it is almost impossible for the reader to retain a grasp of what is going on in each, or to have a sense of what an overall comparison might mean. The 'Observations' that end each chapter are tantalizingly brief, so that one opportunity to focus on a more sustained assessment is lost. Some sections, on the rise of scientific and hospital medicine, and on the history of surgery, are very general indeed, while others, on the development of cancer services in Britain and the United States, and on palliative care in Australia, offer a rather descriptive narrative.

Towards the end, Lewis again points to conflicts, between those who view the body as a machine and those who see human beings as being more than their biology; between those termed "transhumanists" and "bioconservatives" (p. 228). He locates the development of palliative medicine in terms of an internal reaction to the failure of medicine to offer a compassionate response to the dying, but also with regard to a broader individualism. But again the book moves to the arguments of other writers, pointing simply to an "untidy coexistence" of conflicting ideas (p. 234). Readers interested in issues as diverse as the development of

hospices, the rise of scientific and hospital medicine, cancer treatment in New Zealand, the work of Cicely Saunders, cultural attitudes to pain, and the relationship between HIV/AIDS and euthanasia may find this a helpful synthesis. But those looking for a sustained attempt to explain the changing relationship between medicine and the care of the dying will be more disappointed.

**John Welshman,**  
Lancaster University

**Martin Gorsky and Sally Sheard** (eds), *Financing medicine: the British experience since 1750*, Routledge Studies in the Social History of Medicine, No. 24, London and New York, Routledge, 2006, pp. xiv, 258, £70.00 (hardback 978-0-415-35025-9).

This volume is a collection of fourteen papers which were presented at a Wellcome Trust symposium on 'Financing Medicine' in 1996. In the introductory essay the editors outline the theme of the book as "the development of the British medical services viewed from the perspective of their mode of finance" (p. 2). The book is divided into four parts: voluntary funding and the growth in hospital care; local government and medical institutions; general practice and health insurance; and contemporary issues. Although the essays are diverse, they are united in their examination of the "political economy of health" in that they "all exhibit the fundamental concern with the cost of maintaining, or improving, the nation's health" (p.15).

The first essay in part one is Bronwyn Croxson's 'The price of charity to the Middlesex Hospital, 1750–1830', which describes the general features of the London voluntary hospitals and their sources of funding in the period. Croxson provides details about the nature of hospital income and effectively demonstrates how the need to raise funds permeated every aspect of voluntary hospital activity, including admission

arrangements (whereby admission policy explicitly excluded those deemed incurable or chronically ill). The final essay in this section, John Mohan's "'The caprice of charity': geographical variations in the finances of British voluntary hospitals before the NHS' uses data drawn from hospitals in Wales and Scotland as well as England to show the substantial and persistent variations in the resources available to hospitals.

Part Two on local government and medical institutions includes Keir Waddington's account of Poor Law medical provision in London's Whitechapel area in the years from 1850–1900. His essay reveals that the stigma attached to receiving indoor relief had been removed in respect to the receipt of medical care: "the poor saw the workhouse as a familiar and accepted donor of medical services and regularly asserted their right to relief" (p. 102).

Part Three on general practice and health insurance includes Anne Digby's fine essay on 'The economic and medical significance of the British National Health Insurance Act, 1911'. Digby examines the financial implications of the 1911 Act both for general practitioners who generally saw a rise in income from panel practice, and for insured workers who were freed from the burden of finding fees for medical care, a change which also encouraged them to seek earlier treatment. Digby includes research derived from across Britain in her study which also reveals the creation of a two-tier system of health care with panel patients faced with set hours, long waits and perfunctory examinations in contrast to the home consultations which continued for fee paying patients.

The final section of the book deals with contemporary issues and concludes with an essay from Rodney Lowe on 'Financing health care in Britain since 1939'. In his short essay Lowe points out that the inter-war social-insurance based system was dismantled with little resistance, to be replaced by a predominantly tax-based system of funding health care in Britain. Conservative Party



attempts in the 1950s and 1980s to re-introduce an element of contributory funding by patients failed on the grounds that it was politically unpopular and “it would have left the NHS with a heavily reduced income and all the bad risks” (p. 248).

Overall, this book includes a good range of micro and macro studies. However, one drawback is that in the decade since the convening of the symposium substantial work on health and health policy in Scotland and Wales has appeared. These twenty-first-century works which reflect on the financing of medicine in the peripheries have not been considered or even incorporated into updated footnote references. Finally, the fact that an introduction plus fourteen essays are covered in the space of 258 pages means that some of the pieces seem very brief and do not have the space fully to develop their arguments.

**Jacqueline Jenkinson,**  
University of Stirling

**Arthur Daemmrich and Joanna Radin**  
(eds), *Perspectives on risk and regulation: the FDA at 100*, Philadelphia, Chemical Heritage Foundation, 2007, pp. xvii, 163, \$12.00 (paperback 978-0-941901-41-0).

This collection of short essays is derived from a conference at the Chemical Heritage Foundation in Philadelphia in May 2006 to mark the centenary of the US Food and Drug Administration (FDA). The editors, senior research fellow and research fellow respectively at the Chemical Heritage Foundation, bring together FDA officials, including nutritional scientists, and industry scientists, in what is styled as a collaborative enterprise between regulator and business. This is perhaps designed to emphasize the FDA's role in partnering rather than simply policing business activity. Some important industry figures are here: the global nutrition director of Heinz; the vice-president of regulatory affairs at Johnson and Johnson; the senior vice-president and chief medical officer

for GlaxoSmithKline; and the volume closes with comments from Andrew C von Eschenbach, the current (and twentieth) FDA commissioner. These and five of the book's other contributors concentrate essentially on current concerns in the regulation of food, food supplements, drugs and medical devices. Some interesting insights are offered, chiefly relating to the apparently accelerating nature of advances in scientific and medical knowledge, but generally there is a limited engagement with scientific and indeed social scientific debates, especially in relation to the key issues of risk and regulation which are flagged in the book's title.

Surprisingly too, perhaps, given the centenary that is being marked, there is relatively little historical insight. The editors provide a short introduction, subtitled 'Historical and contemporary perspectives', which glides over the former in a single paragraph (p. 4). Peter Barton Hutt, a Washington lawyer and former chief counsel for the FDA, then provides a discussion of ten 'Turning points in FDA history'. This is useful, drawing attention to the very wide range of the organization's remit and responsibilities over the course of its first century, but in this slightly truncated "highlights package" form it does not really do justice to the FDA's highly contested origins and early decades. The 1906 Food and Drugs and Meat Inspection Acts provided improved consumer protection but offered a blanket to business also, legitimizing the methods of food and pharmaceutical producers. The meat packers, who were arguably the worst offenders against food consumers, and whose practices were vividly exposed in Upton Sinclair's socialist novel, *The jungle* (1906), were also excused from the burden of funding the inspection and regulation regime. This was borne instead, to the producers' satisfaction, by the Federal government. This important tale also highlights the fact that global food security has deep historical roots. *The jungle* precipitated a crisis in the export market for US meat products, and this in large part accelerated the drive towards Federal

regulation. Yet elsewhere in the volume the current director of the FDA Center for Food Safety and Applied Nutrition, making otherwise sensible observations about the problems of food security in the contemporary globalized market, seeks to present the issue as very largely an unprecedented phenomenon, which clearly it is not.

Difficult issues and problems, it should be emphasized, are not ignored in the book. There are references to the absence in the US of a comprehensive system of national health care, which is not unrelated to the activities of pharmaceutical companies, and the still contested nature of the FDA is alluded to, with the struggle to secure continued Federal funding leading the organization into the problematic practice of charging user fees for new drugs and medical devices. These lively and ongoing concerns are well presented in the book, which would—it bears repeating—have been considerably strengthened with more robust and extensive historical perspective.

**Jim Phillips,**

University of Glasgow

**Anne Digby,** *Diversity and division in medicine: health care in South Africa from the 1800s*, Studies in the History of Medicine, vol. 5, Oxford, Peter Lang, 2006, pp. 504, illus., £49.50 (paperback 978-0-8204-7978-0).

Writing in opposition to older accounts of South Africa's medical history that featured triumphal careers of white biomedical doctors, devoted little attention to the work of indigenous healers, and focused on separate histories of aspects of the healing profession, in *Diversity and division in medicine*, Anne Digby writes a more comprehensive history of the structure and complex dynamics of health care in South Africa from the 1800s to the present. Using a wide range of archival materials, oral interviews, and secondary literature, the book explores the development of diverse, yet sometimes overlapping, healing

practices provided by “western” and indigenous healers, as well as the often pluralistic paths taken by many patients in search of healing.

This book is divided into ten chapters and grouped into five parts. A useful thematic and historiographical overview sets the scene in Part 1, followed by a paradigmatic chapter in Part 2, introducing the development of medical pluralism amongst different practitioners and their patients in a little-studied frontier region of the Northern Cape. Part 3, which forms of the bulk of the book, examines the work of a variety of health care providers within the region of present-day South Africa. In five separate chapters, Digby examines the healing work of “western” health care providers, including missionary doctors and nurses, colonial medical officers and public health officials, private practitioners, secular nurses, and other health auxiliaries. In another chapter, she also examines the continued resilience and adaptability of indigenous African healing practitioners in the region in the face of the huge changes brought by Europeans. The chapters in Part 3 can usefully be read together as part of the larger story, or as individual, stand-alone units.

One of the most interesting sections is Part 4, entitled ‘Interaction: medical pluralism’. Although Digby's book is entitled *Diversity and division in medicine*, and Part 3 investigates complex differences, divisions, competition and hostility that have historically determined the existences of different healing traditions, and also led to the unequal and unevenly distributed health care provisions in South Africa, she does not focus all her attention on healing schisms and differences. Part 4 provides an intriguing study of the evolving and sometimes overlapping nature of some “western” and African indigenous healer practices, as well as the complex nature of patients' eclecticism in health-seeking behaviour and medicinal consumption. By highlighting diversity *within* the different kinds of medicine examined and important changes that have occurred over time, fresh perspectives are suggested on the dynamic

nature of healing encounters, as well as providing invaluable insights into the hybrid forms of medicine resulting from selective cross-cultural appropriation or imitation. Finally, the book ends by relating the past to the present and examines the historical legacy of the racially divided and inequitable health care structures, manpower and resources on the “new” South Africa, particularly the huge challenges these have posed for addressing the HIV/AIDS pandemic.

This book, despite its implied inclusive subtitle, is strongly focused on the Cape. Although it is possible to generalize about many health care issues from the Cape to the whole of South Africa, this regional specificity also hides certain important dynamics. For example, one group which receive little mention are Indian South Africans. Not well represented in the Cape, though present in larger numbers in other parts of the country (especially Natal), within “western” medicine, Indian South Africans were some of the earliest “black” doctors trained both overseas and locally in Durban and Johannesburg, and for many decades during the twentieth century formed the largest number of “black” doctors in the country. A focus on the Cape region also presupposes it as the locale for the earliest initiatives within the “western” tradition, but there were many pioneering efforts elsewhere, such as nursing, midwifery and medical training opportunities provided for “blacks” by McCord Zulu Hospital in Durban, for example. Finally, while a valuable introductory survey, inevitably, the single final overview chapter covering the period from the 1940s onwards is less developed than Digby’s earlier chapters covering the nineteenth and early twentieth centuries, giving the book a somewhat unbalanced feel.

Despite these above concerns, *Diversity and division in medicine* is a welcome addition to the history of medicine in South Africa. It ambitiously brings together analysis of many of the complexities of health care in that country during the last two centuries and highlights its differentiated and contested character. The book’s extensive footnote and

bibliographical references will be invaluable to researchers in further explorations on the subject. It is an enormous pity, however, that its exorbitant price puts it out of the market for most people in Africa interested in reading it.

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University of KwaZulu-Natal

**Paul D Blanc**, *How everyday products make people sick: toxins at home and in the workplace*, Berkeley and London, University of California Press, 2007, pp. x, 374, £32.50, \$50.00 (hardback 978-0-520-24881-6), £12.95, \$19.95 (paperback 978-0-520-24882-3).

The publication of Rachel Carson’s *Silent spring* in 1962 serves as an important landmark in the history of medicine. Medical researchers and policy-makers once again registered the impact of environmental conditions in the health of populations familiar to Victorian doctors, while the manufacture and use of chemical products (and the pollution caused by petro-chemicals in particular) became associated with imbalances in nature and ecological degradation. The practice of occupational and environmental medicine moved from the margins of professional concerns to the centre of debates on the protection of consumers as well as producers. Air quality, urban atmospheres and domestic or garden products were subjected to fresh scrutiny as environmental health campaigns targeted DDT, lead paint and a host of other substances widely marketed as safe for suburban family use. Policy innovations of the 1970s and 1980s included the creation of new national health and safety agencies in Britain, the United States and other affluent societies.

Medical historians have followed this shift in focus from professionalized personal medicine and institutional provision to take more seriously the potent significance of toxins found at work and in the home. Chris Sellers, Joel Tarr, David Rosner, Gerald Markowitz, Paul Blanc and others have made

notable contributions, mostly concerned with environmental hazards in twentieth-century America. This new research has also encompassed occupational threats from products such as asbestos, silica and coal, provoking heated debates as well as the participation of historians in public legal proceedings as workers and consumers have sought damages from major corporations across the globe. It is in this context that Paul Blanc's new book can be welcomed both as a significant exercise in medical history and as a useful attempt to popularize the subject of health risks which have been, and are, associated with the production, use and consumption of familiar and unfamiliar substances. As a medical scientist with direct experience of occupational and environmental hazards, Blanc presents a vivid and fluent narrative history of individual chemicals and industrial processes, including the introduction of man-made fibres such as rayon which involved the lethal use of carbon disulfide.

We are reminded that the widespread introduction of poisonous substances to processes of production and consumption has been inextricably linked to the growth of consumer capitalism and the large trans-national corporation. Blanc's general argument is that many of the most dangerous minerals and compounds utilized in the making of household goods have long been known to be seriously dangerous to human and animal health. Bernardino Ramazzini graphically described many of them at the beginning of the eighteenth century. Blanc outlines the characteristic responses of the opponents of regulation. Advocates of economic liberalism emphasize the capacity of markets, producers and consumers to assess risks and protect their own interest by demanding higher wages or another premium. Faced with indisputable evidence of poisoning, critics have historically questioned the scientific veracity of research and stressed the economic and political costs of following visionary (anti-business) crusaders. Some "revisionist" health historians as well as economists have argued that the most effective

solutions to the risks of human and environmental damage have been historically found by scientists, business leaders and policy-makers seeking practical technologies, contrasting these approaches with the politically-inspired critics of economic progress.

Blanc's vivid and meticulous documentation of deaths and illness arising from a wide range of "durables" provides irrefutable evidence that irresponsible practices have been perpetrated in weakly-regulated industries within advanced industrial societies as well as less-protected developing countries where workers and consumers have historically absorbed the risks of production undertaken by global corporations mainly based in the United States, Europe and Japan. It is worth noting that some of the most primitive working conditions and the least healthy products were (and are) found in communist societies pursuing a productionist goal of maximum economic and military growth alongside a drive to improve basic living standards and state health services. The paradoxes of consumer choice and collective responsibility for a sustainable environment can in part be explained by delinquent capitalism but we also need to embrace the lessons of global deterioration. Otherwise the historical fears of a silent spring and a nuclear winter will be superseded by the prospect of profound global damage.

**Joseph Melling,**  
University of Exeter

**Neil Pemberton and Michael Worboys,**  
*Mad dogs and Englishmen: rabies in Britain, 1830–2000*, Basingstoke, Palgrave Macmillan, 2007, pp. x, 247, illus., £45.00 (hardback 978-0-230-54240-2).

Walking across a Chinese campus with a friend in 2006, we met a Shih Tzu, a breed much favoured by the local teachers (its great feature is that it doesn't bark). Much to my surprise, Shao Peng backed away, muttering

imprecations and making negative and ineffectual gestures at the dog. Afterwards he explained that you could not be too careful where dogs were concerned, however harmless they might appear. They might bite, and their bite could give you a horrible disease.

Rabies is enzootic in China, but its incidence is negligible in the north where we lived (and the dog was hardly behaving strangely). Reading *Mad dogs and Englishmen* reminded me of the incident; despite what sometimes seems the authors' view, it is not just the English who are subject to phobias about this disease (and I remain to be convinced that they are peculiarly attached to dogs). Rabies has always understandably attracted universal horror. While consensus on the need for control and the desirability of eradication can readily be achieved, its variability and uncertainty over the incubation, symptoms and transmission have always resulted in uncertainty and arguments over its incidence and how to meet it.

These features figure largely in the excellent overview provided by Pemberton and Worboys of the history of rabies, and of human attitudes to rabies, in England during the past two centuries. They set out to address four main themes: changes in the medical understanding of rabies (primarily in the nineteenth century), the differences between professional and lay understanding, the role of the state in meeting the disease and aspects of the history of dogs in Britain. Their account is particularly good on the manner in which, before the first Reform Act, fears of lower-class upheaval ran parallel with concern over the rabid dogs of the latter. As befits social historians, they are careful not to be judgemental—although some aspects could warrant rather more comment. Thus, late-nineteenth-century control measures exempted foxhounds from muzzling—but not sheep-dogs and other farm dogs.

*Mad dogs and Englishmen* is social rather than medical or veterinary history. Modern findings on the aetiology and pathology of rabies are revealed only near the end, while

epidemiology is hardly touched upon (a short article by Henry Carter on 'The history of rabies' in volume 9 of *Veterinary History*, can be recommended in this respect). The authors argue that this allows the reader to "better appreciate past ideas and actions in context" (p. 3), and this may be so. At the same time, it can be frustrating. According to Carter, rabies was always epizootic rather than enzootic in Britain; Pemberton and Worboys offer no opinion, although, if it was so, it represents a critically important context to their story.

They do offer a judgement on the efficacy of "muzzling" dogs in eradicating rabies at the turn of the century. It was unlikely to have been as great as claimed by contemporary bureaucrats and politicians: "the muzzle was a cumbersome piece of technology. It was of little use as a restraint on a rabid dog" (p. 162). Further, although the authors do not stress this, eradication was made relatively easy because rabies was not enzootic in Britain, and port controls were likely to be more effective than border controls in continental Europe. Finally, rabies never became enzootic in British foxes, as it did on the continent (that would have posed an interesting conundrum for foxhunting politicians). Strict quarantine may now seem outmoded, but it had its value in the recent past against this zoonosis.

A final point: at £45, the publishers should have been able to include a bibliography and avoid the abundance of typographical errors in this book.

**John Fisher,**

University of Newcastle, NSW

**Roberta Bivins, *Alternative medicine?***

*A history*, Oxford University Press, 2007, pp. xvii, 238, illus., £14.99 (hardback 978-0-19-921887-5).

The history of medicine has for some time lacked an accessible historical overview of so-called alternative medicine. Robert Jütte's *Geschichte der alternativen Medizin* (Munich, 1996) is a notable exception; alas it remains

untranslated. Roberta Bivins' book is therefore a welcome attempt to fill this gap, its compact size belying the extensive nature of its content.

The reader is introduced to the basics and history of western, traditional Chinese and Indian Ayurvedic medicine, highlighting the surprising similarities in the different cultures' medical cosmologies. In examining Chinese moxibustion and acupuncture, Bivins then illustrates the intercultural exchange of medical knowledge through lay and medical networks and its adaptation to prevalent western beliefs. Moxibustion against gout was enthusiastically taken up by eighteenth-century westerners, but suitably adjusted to eliminate "disturbingly foreign elements" and conform to western medico-theoretical frameworks. This would also be its downfall when the latter altered. Acupuncture resembled no existing procedure and was long ignored, re-emerging in 1820s orthodox practice as a pragmatic "trial-by-error needling *in locus dolenti*". While it too fell out of favour, Bivins suggests that its popularity may have influenced the rise and acceptance of the needle as a medical instrument. Western alternatives are represented in the guise of homoeopathy and mesmerism. Unlike their "foreign" counterparts, both originated as reform movements within orthodox medicine, only gradually relocated outside the mainstream by a profession hostile not only to the therapies, but to some of the social changes these practices advocated. Moving beyond western spheres, a most interesting contrast is given by examining the impact of both orthodox and alternative western medicine in colonial India. Orthodoxy, with all its claims of superiority and intrinsic opposition to existing Indian medicine, as well as its close ties to colonial administration, was mistrusted. Western scientific medicine, and germ theory's supposed novelty and superiority in particular, were contested in light of existing Ayurvedic concepts and arguments for Indian medicine already being "scientific". Homoeopathy and mesmerism meanwhile were more readily accepted, as

they were not tainted by association with the colonial elite and could often be accommodated within local cultural and medical understanding.

Overall, Bivins shows that alternative practices and an interest in heterodoxy have been permanent features in the medical world. As the rise of biomedicine diminished the patient's power to influence orthodox medical practice, increasing consumer dissatisfaction made alternative, complementary and cross-cultural medicine a more attractive proposition, thus ensuring that the medical marketplace remained as varied as ever. The Indian example reminds us that our understanding of *mainstream* and *alternative* must be questioned, something already hinted at in the use of a question mark in the book's title, as even the bastion of orthodoxy can be the mistrusted "outsider" when introduced into a different cultural context. Bivins' own positive experiences with both alternative and mainstream healing clearly inform her judgement throughout this book, resulting in an unbiased analysis that should give pause for thought even to the more obstinate members of the western medical profession.

The task of fitting the breadth of topics covered into a small tome could have become the book's Achilles' heel, as the author tackles classical and modern, western and eastern themes over four centuries. Happily, Bivins' already remarkably compendious account is complemented with a list of recommended further readings, thereby ensuring that interested readers can go beyond the provided text, following up themes in greater depth if they so wish. Combined with a lucid and engaging writing style, the resulting book is as accessible and entertaining to the layman as it is informative to scholars of the history of medicine seeking to familiarize themselves with alternative and cross-cultural perspectives.

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The Wellcome Trust Centre for the  
History of Medicine at UCL



**Keith Wailoo, Julie Livingston, Peter Guarnaccia** (eds), *A death retold: Jesica Santillan, the bungled transplant, and paradoxes of medical citizenship*, Studies in Social Medicine, Chapel Hill, University of North Carolina Press, 2006, pp. viii, 378, \$55.00 (hardback 0-8078-3059-3), \$21.50 (paperback 0-8078-5773-4).

Medical procedures do not take place in a vacuum. They depend upon, involve, and shape surrounding society, and access to health care services engages with fundamental ideas of who we are and how we belong. Nowhere is this more readily observed than in the case of organ transplants. Organ replacement therapies reach beyond the strictly medical world in very tangible ways, requiring the transfer of sometimes vital body parts from one person to another and involving the dilemma of how to distribute a scarce and lifesaving resource in a just and economic manner. Regulating and organizing the replacement of organs has proved controversial in most countries, and different societies have come to very different solutions on these issues. Thirty years ago, Renée Fox and Judith Swazey argued that organ transplants were at least as significant for their social and cultural as for their medical perspectives. Judging by the contributions to the collection of essays edited by Wailoo, Livingston and Guarnaccia, this holds true also for the mistakes that sometimes take place in the course of organ transplants.

The essays revolve around one such particular mistake. In 2003, Jesica Santillan, a seventeen-year-old illegal Mexican immigrant with a failing heart, underwent a combined heart-lung transplantation at Duke University Medical Center. Shortly after the operation, doctors discovered that the grafted organs were of a different blood type than the recipient. A rejection period followed, a second heart-lung transplantation was undertaken within days, but to no avail. Jesica Santillan died, having never regained consciousness after the first operation. The

case attracted much attention in the US, and the essays try to draw out the larger questions and themes that were discussed in the process of the public's attempt to make sense of, and to assign blame and glory, in the case of the so called "bungled transplant".

Through four sections, the contributors explore the matching error and how it was explained and understood, the allocation policies of organ procurement organizations (including how to deal with issues of ethnicity, nationality, and wealth in that respect), the international trade in organs and health services, and finally the experimental aspects of organ transplants and the significance of this in relation to the public presentation of Jesica Santillan as a child or even a baby. The anthology draws on the combined expertise of sociologists, ethicists, medical doctors, anthropologists and historians, who all fix their eye not so much on the actual events of the mismatched transplant and what ensued at the bedside, but rather on the public debate that followed and outlived Jesica Santillan. We learn much about how different actors framed their discourse about events in order to divert or assign blame, and the section on organ allocation policies is very instructive in highlighting a question that is sometimes overshadowed (but nevertheless accentuated) by organ scarcity, namely who should receive the available organs. The historical perspective is not predominant, but we do get a chance to see Jesica's case in the light of earlier mistakes and controversies in organ transplantation.

Generally, however, the chapters do not go beyond very general historical comparisons. Similarly, the authors rarely engage in discussions with previous studies on the politics and ethics of organ transplants, just as central analytical concepts like, for example, "medical citizenship" are not discussed or clarified. The result is a collection of highly readable essays that provide little in the way of detailed information of actual events, but excel in their ability to draw out perspectives and make connections within that "volatile microcosm" (p. 6) that the Santillan case is

made to represent. The perspective is almost exclusively on the US, but the contributions provide inspiration and insight also for those grappling with the paradoxes of organ transplants in other settings.

**Søren Bak-Jensen,**

Medical Museion, University of Copenhagen

**Petteri Pietikainen,** *Neurosis and modernity: the age of nervousness in Sweden*, History of Science and Medicine Library, vol. 2, Leiden and Boston, Brill, 2007, pp. xiii, 391, €99.00, \$129.00 (hardback 978-90-04-16075-0).

This book presents us with a study of the changing concepts of nervous illness (neurosis) in Sweden in the “Nervous Century”, that is 1880–1980, and, equally important, of the social and cultural reception and diffusion of what the author refers to as a “contagious diagnosis”.

The 1880s witnessed an intensified attention towards nervousness. George Beard launched his diagnosis of “neurasthenia”, Charcot started his lectures/demonstrations of hysteria and, more locally, a neurological clinic was opened in Stockholm. For Pietikainen this attention heralded the Nervous Century, which lasted until the American Psychiatric Association in 1980 eliminated “neurosis” from the diagnostic list of the influential DSM-III (Pietikainen’s study only goes up to 1950, thereby leaving out the last three decades of the Nervous Century). In this century, Pietikainen argues, Sweden saw a veritable epidemic of nervous diseases, due to an affinity between “nervousness” and “modernity”, and to the very contagious nature of the concept of neurosis. During this epidemic, the category of nervous illness went through a profound conceptual transformation that is variously, and at times confusingly, presented in the book as a “paradigm change”, a change of “cultures”, a shift between two “languages” and as a transition between two “ages” or “eras”.

When nervous diseases occurred as a mass phenomenon in the 1880s they were linked with the physical reality of the *nerves*, and described in a language where *energy* was a central metaphor. Nervousness was understood as “overtaxing of the nervous system or the constitutional weakness of nerves” (p. 10). This physicalist (or naturalist) paradigm for thinking around and talking about nervous disease reigned from the fin-de-siècle until the 1930s. But from the early twentieth century this paradigm was challenged by a discourse of the psyche, most emblematically represented by psychoanalysis. By the end of the Second World War, as the “era of psychoculture” began, the physicalist language was fully replaced by the psychodynamic frame of reference in which neuroses were understood as the result of psychic conflicts and traumas. This shift also implied a change in the inter-professional relationship between neurologists and psychiatrists as neurosis moved from the domain of the former to that of the latter. Nervousness was now predominately located in the mind of the patient, and the mind was embedded in the social body, rather than in the brain. Hence mental problems to a large degree came to be perceived as problems in the social environment of the patient or in the larger social body. This new conceptualization of many mental problems fitted well with the ideological horizon of social democracy, based on reformism and interventionism, and hence came to have bearings also on the politics of health promotion.

Pietikainen draws on a broad spectrum of historical sources, including psychological, psychiatric and medical journals, minutes of the meetings of medical associations, case records both from private practice and a neurological clinic, medical manuals, textbooks, popular books on neuroses and nerve illnesses, and more. One of the merits of the book is this diversity of sources, and especially the use of clinical records, which are rarely used in this kind of broad historical narrative.

The book presents itself as a history of nervous illness *in Sweden*, taking as its

departure point that “the Swedish experience of neurosis differed from that of most western nations” (p. 9), and therefore, since this experience is different, also the “history of neurosis in Sweden” is different from that of “other Western countries”. These initial statements are hardly substantiated in the book, and this reader was therefore left unsatisfied with the comparative aspects of the book. It may be unfair to demand an even broader analysis, but the introduction invites a reading that is bound to disappoint. An investigation of the possible specificities of Swedish neurosis, which would also have to confront the mobility of medical discourses, would probably demand a more systematic comparative approach. This book might, however, be a fruitful starting point for an analysis of national variations in the interpretation of neurosis.

Svein Atle Skålevåg,  
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**Chad Ross**, *Naked Germany: health, race and the nation*, Oxford and New York, Berg, 2005, pp. xi, 239, illus., £50, \$95 (hardback 978-1-85973-861-3), £16.99, \$28.95 (paperback 978-1-85973-866-5).

Given the strong scholarly interest in the history of the body it is not surprising that the history of German nudism or *Freikörperkultur* has been the subject of several books. Most recently the German-language monographs by Maren Möhring and Heiko Stoff (both published in 2004) have explored different aspects of the phenomenon in innovative ways. *Naked Germany* is the first book-length study on the subject in English. Covering the period from 1890 to 1950, the author for the most part prefers a thematic approach in his presentation. After a short historical survey, he looks at the relationship between nudism, the churches, the state, and the Nazis in a single chapter. This is followed by chapters that focus on the relationship between nudism and medicine, and on nudist discourses on health,

beauty, women, sex and race. Such a thematic approach has advantages. It can emphasize historical continuities that might otherwise have been overlooked. But there is the danger that such an approach obscures shifting emphases and developments in German body culture over time.

Ross has not been entirely successful in avoiding this danger. The period from 1900 to 1945 was not only characterized by radically different political regimes, it also witnessed fundamental cultural and social changes. Some of them—such as changes in gender relations—have significant implications for the author’s study but he does not explore them in a systematic fashion. While Ross concedes that the symbolic meanings of the body were subject to constant change because “it has been the site of restless struggle between individuals and various political, religious, and scientific authorities” (p. 6), he also claims that there was a clearly identifiable ideological core to the nudist movement that remained mostly unchanged for the first half of the twentieth century. In his view, nudists aimed at the transformation of the German nation “into a harmonious, strong, racially pure *Volk* by first transforming Germans into healthy and beautiful bearers of the racial seed” (p. 1). This characterization might be true for some nudists but others had rather different political agendas. During the Weimar years, communists like Friedrich Wolf and Social Democrats like Adolf Koch advocated nudism because they thought it fortified workers for the class struggle or helped them overcome the debilitating effects of their social situation. In any case, given his emphasis on the racial goals of nudism, Ross’s claim that nudism itself was apolitical (p. 58) seems strange.

There are a few problems from the medical history view-point. Since the author neglects the specific historical context of the Weimar period, he conflates the issues of eugenics or racial hygiene with Nordic racism advocating racial purification. Not all advocates of eugenics subscribed to Nordic racism even though quite a few leading Weimar eugenicists

were Nordic racists. The chapter on nudism and medicine confuses homeopathy with naturopathy (*Naturheilkunde*). Such a mistake could easily have been avoided by consulting the historiography on alternative medicine in Germany. *Naturheilkunde* was based on various systems of water cures and dietetic life style prescriptions that included nude exercises in the open air and sun bathing. It provided nudists with aetiological models and justifications for their own practices that aimed at stimulating metabolic exchange in order to prevent auto-intoxication.

These criticisms should not detract from the strengths of the book. Ross's visits to over a dozen federal, state, and local archives in Germany, have not only uncovered a wealth of new material on the history of German nudism. In the sections dealing with the Nazi period, he has developed a fairly nuanced account of the ambiguous and contradictory attitudes that informed Nazi policies on nudism. But since the study pays insufficient attention to changing cultural, social and political circumstances it does not fully capture the diverging motivations and complex attitudes of people who practised *Freikörperkultur*.

**Michael Hau,**  
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**Rhodri Hayward, *Resisting history: religious transcendence and the invention of the unconscious*, Manchester University Press, 2007, pp. xi, 147, £40.00 (hardback 978-0-7190-7414-1).**

Over the last three decades, a number of studies have appeared (for example, Janet Oppenheim's *The other world* (1985), Alex Owen's *The darkened room* (1989) and *The place of enchantment* (2004)) that investigate the links between nineteenth-century British spiritualism, occultism and psychology. With his new book Rhodri Hayward makes a significant contribution to this field. The author traces how modern notions of history

and selfhood emerged out of nineteenth-century religious and scientific debates about the boundaries of human personality. Hayward opposes Freud and an eminent line of historiography, which depicts the discovery of the unconscious as a revolutionary event that threatened nineteenth-century assumptions of personal and historical identity as well as bourgeois morality. In contrast, Hayward sets out to reveal that "the new rhetoric of the unconscious served a conservative purpose, being used to police the subversive mystical experiences of spiritualism and revivalism" (p. 6).

The book is divided into four chapters which tackle the subject from different but interconnected angles. In the first chapter, Hayward concentrates on developments of nineteenth-century history and theology which led to fundamental changes in the concept of selfhood. Historicists, such as the German David Strauss, declared supernatural and mystical accounts of the Bible as unhistorical since they did not fit into the newly established laws of historical and psychological unity. Hayward provides further evidence that in the wake of historicism transcendental aspects of the human self were more and more replaced by social concerns.

The second chapter is not only the longest but perhaps also the most illuminating part of the book. Here, Hayward gives a detailed account of how spiritualists and their opponents argued about the boundaries of personality and death, and how these conflicts gave rise to a new model of selfhood, namely the subliminal self, which anticipated the Freudian unconscious. As Hayward shows, the idea of the subliminal self was first developed within the works of Frederic W H Myers, a leading member of the Society for Psychical Research, who strove to provide intrapersonal explanation for mediumistic phenomena. Apparent supernatural phenomena, such as clairvoyance, second sight, automatic writing, trance speech and spirit possession, were thus made subject to the rhetoric of psychology. Although the definition of the subliminal self

remained unspecified, Hayward further demonstrates that early psychologists employed the concept in their works with a similar target. They aimed at explaining disruptive sides of the human personality, such as hysteria or spirit possession, as an internal process. Hayward's initial claim that the subconscious or unconscious was introduced for conservative reasons is convincingly proved. What needs to be investigated in more detail is, however, how the concept of the subconscious self developed by Myers evolved into the Freudian unconscious.

In chapter three, Hayward examines ways in which the concept of the subliminal self was employed in the works of early American psychologists of religion. He points out that although research interests and methods of its practitioners such as Edwin Diller Starbuck, James Henry Leuba and William James differed, they nevertheless drew on the subliminal self to domesticate spiritual experiences which threatened the envisioned psychological unity of the subject. The chapter also provides relevant insight into the political and religious agendas that shaped the psychology of religion at the time.

The focus of the fourth chapter is on two figures of the Welsh Revival (an early twentieth-century Pentecostal movement) namely Evan Roberts and Sarah Jones. Both figures serve as case studies backing up Hayward's general argument that in the course of the nineteenth century religious authority was superseded by psychology.

In sum, Hayward's book is a tour de force in the history of nineteenth-century religion, psychology and historiography. Its comprehensive analysis of the birth and subsequent career of the idea of the subconscious self, indeed, challenges contemporary psychological assumptions and prompts today's historians to question conceptions of historiography.

**Alexandra Lembergt,**  
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**A Lloyd Moote and Dorothy C Moote, *The great plague: the story of London's most deadly year*, Baltimore and London, Johns Hopkins University Press, 2004, pp. xxi, 357, illus., £19.95 (hardback 0-8018-7783-0), £12.50 (paperback 0-8018-8493-4).**

The London plague epidemic of 1665 occupies an unusually prominent place in disease history, and for that reason alone the revisiting of its sources undertaken by A Lloyd Moote and Dorothy C Moote is welcome. The authors hope to recreate a narrative picture of individual experiences and responses to a cataclysm that may have taken 100,000 lives, and they have produced a readable and reasonable account that should now be the first choice of readers who want to know the story.

The narrative is structured around several individuals who left extensive accounts of their own experiences: the apothecary William Boghurst, the physician Nathaniel Hodges, the clergyman Symon Patrick, the bureaucrat Samuel Pepys, and the merchant William Turner. Also contributing are the gentleman John Evelyn, the Southwark medical practitioner and preacher John Allin, the Essex clergyman Ralph Josselin, Lucy Hastings (Lady Huntingdon), and her London agent Gervase Jacques. The authors, well aware that such testimony represents only the successful minority, must allow poorer London to speak collectively, relying particularly on records from such stricken parishes as St Giles' Cripplegate, St Margaret's Westminster, and St Botolph's Bishopsgate. Vivid details from the sources bring home the realities of the epidemic: powdered unicorn horns as a cure-all, church bell ropes breaking under the strain of constant tolls for the dead, the treasure chest of the abandoned College of Physicians looted by thieves, the main London post office "thick with smoke from constant fumigation" (p. 162), the emergency expenses incurred by parishes building new walls around extended burial grounds. An important thesis of the book grows out of such narrative details: the efforts of individuals (many nameless) should be celebrated, for in the face of staggering

mortality many of the essential functions of life were carried on. "[E]conomic survival outweighed the risk of death," as the authors say (p. 168).

The phrase "London's most deadly year" in the sub-title may raise some eyebrows, since other writers have argued that the plague epidemics of 1563, 1603, and 1625 exacted higher mortality rates than that of 1665. The Moores argue not only that the total mortality of 1665 was higher and so more "deadly," but that the official 1665 toll was seriously undercounted, and the large numbers of people who fled (perhaps as many as 200,000) should be taken into account when calculating the mortality rate. They estimate that the mortality rate ("officially" about 19 per cent) might have in fact been upwards of 30 per cent of those who remained.

Some responses were widely agreed on. Flight was perhaps the surest, especially for those who could afford it. Many people in both Londons persisted in denial of the presence of plague, a fact that certainly skews contemporary mortality statistics. Isolation and its applications, especially the shutting-up of infected houses, remained a major official response, in addition to religious services and succour. Fumigation, fires, and smoke all combated the fatal "miasma." Dogs and cats, thought likely contagious agents, were massively slaughtered. But many uncertainties remained as well: the causal roles of miasma and contagion, the efficacy of Galenic, chemical, or mechanical theories and remedies, the uneasy coexistence of beliefs in divine providence and "scientific" explanations, and (perhaps most painful) the doctrine of individual responsibility versus the practical difficulties of life faced by the poor.

The authors deliberately choose narration over analysis, but they at least notice some larger underlying issues. They mediate sensibly between optimistic (largely demographic) and pessimistic views of the epidemic's effects: their concentration on individuals' experiences certainly reinforces a pessimistic view of a catastrophe, but that is tempered by their celebration of individual

and collective heroism. Similarly sensible is their discussion, in the epilogue, of the now-contentious identity of the disease itself; they hold with *Yersinia pestis* as the probable causative organism, but present some of the current objections raised against it.

Some other large questions would benefit from further discussion. How—for example—are the higher mortality rates suffered by women to be explained, apart from reference to pregnancy? Why did no further plague epidemics occur in London? (This point is discussed, but rather cursorily.) And what accounts for the 1665 epidemic's persistent hold on the folk memories and literary traditions of England? Lloyd and Dorothy Moore, by refocusing our attention on the everyday lives and deaths of Londoners in 1665, have, however, provided at least a partial answer to "why did it matter?"

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**Bruce T Moran**, *Andreas Libavius and the transformation of alchemy: separating chemical cultures with polemical fire*, Sagamore Beach, MA, Science History Publications/USA, 2007, pp. viii, 344, \$49.95 (hardback 978-0-88135-395-2).

Andreas Libavius will be familiar to many through the exposition of his views given in Owen Hannaway's *The chemists and the word: the didactic origins of chemistry* (1975). In that book, Hannaway tellingly juxtaposed the Paracelsian world-view put forward by Oswald Croll with that of Libavius in his *Alchemia* and other writings, and illustrated the extent to which it was Libavius who laid the foundations of academic chemistry in the seventeenth century. In pursuit of his overall theme, Hannaway was necessarily selective in his account of Libavius' voluminous polemical writings, but Bruce Moran has now provided a much more systematic account of these. Indeed, this book represents something of a labour of love in terms of reconstructing



the erudite Latinate polemical culture of late sixteenth- and early-seventeenth-century Europe: the author deserves considerable gratitude simply for ploughing through these turgid volumes—some of them nearly a thousand pages long—and giving lengthy summaries of them. Moran also quotes from them sufficiently profusely to convey a sense of their vituperative, sometimes downright defamatory, tone; often, he helpfully intersperses his translation with key words from the original. “Oh Hartmann”, Libavius wrote in a characteristic assault on one of his enemies, Johann Hartmann, Professor of *Chymiatría* at the University of Marburg: “yours is a mental darkness [*caligo*] stitched together from falsehoods, deceptions, parables and obscure enigmas ... The schools of the entire world and the new and old wisdom alike are a disgrace to you because they will not be gulped down with your Paracelsian muck [*stercora tua Paracelsica*]” (p. 233).

In the course of the book, Moran gives a helpful account of Libavius’ career and he well brings out his intellectual agenda, particularly his insistence on the need for logical precepts and principles and sound method in chemistry as in other disciplines, and his lifelong ambition to bring together the best of old and new knowledge. Libavius believed strongly in humanist linguistic proficiency and analysis, while equally significant is the strong moral dimension that he perceived in the pursuit of true knowledge: such traits are evidence in all the topics on which he wrote so profusely. The coverage of the book extends even to include the religious polemics in which Libavius engaged, though the bulk of it deals with controversies concerning chemistry, medicine and related fields. In these, Libavius’ appetite for syncretism combined with his polemical zeal sometimes led him to some slightly precarious compromises on which his opponents were able to capitalize. Thus in his wish to ensure that the best of all traditions was incorporated into the chemical discipline to which he aspired, he was happy to accept a good deal of the substance of Paracelsian doctrine, though

not its interpretative superstructure, and he had to indulge in similar convolutions when he intervened in the Parisian medical debates of the early years of the seventeenth century. Moran divides his subject up into a series of chapters of manageable length, and in each he does justice to the complexities of Libavius’ position on the various issues that he confronted, from the role of transmutation to the validity of the weapon salve. He also comments perceptively on the mutual incomprehension of the two sides in some of the disputes in which Libavius was involved. Occasionally his language and vocabulary betray the influence of his subject—as with the strange usage of “paedagogiarch” on p. 35—and the relentless appetite for polemic on the part of his subject at times becomes almost overbearing. But this is nevertheless a valuable book which throws much light on a significant episode in the evolution of ideas on chemistry and related subjects.

**Michael Hunter,**  
Birkbeck, University of London

**Lawrence M Principe** (ed.), *Chymists and chymistry: studies in the history of alchemy and early modern chemistry*, Philadelphia, Chemical Heritage Foundation and Sagamore Beach, MA, Science History Publications/USA, 2007, pp. xiii, 274, \$45.00 (hardback 978-0-88135-396-9).

This collection of twenty-two essays is based upon a conference held at the Chemical Heritage Foundation in Philadelphia in July 2006, an event featured in the *New York Times*. It covers medieval alchemy to mid-eighteenth century metallurgy, a discipline classified as “chymistry”. “Chymistry” is consciously used by Lawrence Principe to assert that it is an anachronism to make clear distinctions between alchemy and chemistry in this period. For instance, early modern “chymists” attempted to transmute metals into gold, considered an “alchemical” practice, yet additionally performed experiments involving

mass balance or crystallographic analysis that today would be considered “chemical”.

As Stephen Clucas notes in his essay, it is also not so simple to cite early modern discontent (such as that of Robert Boyle in his *Sceptical chymist*) with alchemy’s obscure language and secretive practice as an explanation for alchemy’s decline and the rise of exact experimentalism. As an example, because the French chymist Samuel Duclos was informed by a vitalist and alchemical tradition, he was characterized historiographically as a scientist of “misleading obscurity” (p. 181). But as Victor Boantza’s essay demonstrates, the truth was more complex. Duclos was a talented and exact experimentalist who mounted an effective critique of the corpuscularianism of Robert Boyle. Indeed, this volume demonstrates that changes in chymical practice were accompanied by larger epistemological issues of the “Scientific Revolution”—namely “the rising fortunes of experimental philosophy, and the declining fortunes of hermeneutics” (p. 51).

Chymistry was also set in a larger socio-economic and cultural context. Tara Nummedal’s paper ‘On the utility of alchemical fraud’ gives valuable insights into the nature of scientific authority, as well as revealing chymistry’s ties to the material resources of the early modern state. Matter theory, creation, and religion are constant themes. Dane Daniel analyses the early reception of Paracelsian theology in the Germanies. Margaret Garber examines Jesuit debates in the 1630s about a theory of seminal principles supported by chymical transmutation versus Scholastic hylomorphism. Garber reveals the extent to which these debates affected theories of transubstantiation, a volatile issue in the aftermath of the Counter-Reformation. Hiro Hirai explores the Jesuit polymath Athanasius Kircher’s theories of spontaneous generation, which he perceptively attributes to a combination of corpuscularism, Paracelsian chemical ideas, and early modern concepts of a “plastic power” (p. 87). I would like to have

seen in Hirai’s piece a larger discussion of Joseph Du Chesne, who anticipated a good deal of Kircher’s thinking on this subject, particularly about salts and generation.

There are several interdisciplinary essays. Marcos Martínón-Torres and R Werner Soukup utilize archaeology to unearth early instrumentation. Bruce Moran and Barbara Obrist perform cogent visual analyses of alchemical emblems and illuminated manuscripts, and Wouter J Hanegraaff deciphers the verbal symbolism of Giovanni da Corregio’s Renaissance manuscript on the philosopher’s stone. Allison Kavey has written a thought-provoking piece about alchemical sexual metaphors and gender malleability.

The final theme concerns studies of prominent chymists, patronage, and the transmission of ideas. Gabriele Ferrario analyses the origins and transmissions of the *Liber de aluminibus et salibus*, one of the most famous books of medieval Arabic alchemy. Peter Forshaw examines the medieval and early modern responses to Hermes Trismegistus’ *Emerald tablet*. As part of his effort to digitize Newton’s chymistry, William Newman discusses an undiscovered manuscript concerning metallic generation and the role of gur, or vitriolic liquid (sulphuric acid) believed by early modern miners to indicate ores. Mining and chemistry are revisited in Hjalmar Fors’ analysis of the Swedish Board of Mines (1680–1760). Royal patronage is the theme of Didier Kahn’s essay on King Henry IV of France and Paracelsianism. French connections are also explored by Luc Peterschmitt’s work on French Cartesians and chemistry, and Bernard Joly examines the intellectual quarrels between chymists at the Académie Royale de Sciences in the early eighteenth century. John C Powers and Ku-Ming (Kevin) Chang further elucidate transitions in eighteenth-century chymistry, with analyses of Herman Boerhaave and George Ernst Stahl.

Finally, Claus Priesner analyses alchemy and the Enlightenment among the Rosicrucians, who saw its eighteenth-century practice as part of a discussion of the price of

the triumph of rationality. The possibilities of chemical transmutation still had a hold on Enlightenment thinkers, just as Principe's volume shows that they do for scholars today. *Chymists and chymistry* is a nicely produced conference proceedings and a significant addition to the history of chemistry.

**Anna Marie Roos,**  
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**Eve Keller,** *Generating bodies and gendered selves: the rhetoric of reproduction in early modern England*, In Vivo: The Cultural Mediations of Biomedical Science, Seattle and London, University of Washington Press, 2007, pp. xi, 248, £17.99, \$30.00 (paperback 978-0-295-98641-8).

The western, liberal, individualized, interiorized, and normatively masculine self was assembled during the mid-sixteenth to early-eighteenth centuries. Here, Eve Keller offers a genealogy of that subject's supra-material autonomy. She draws our attention to profound similarities between Galenic and post-modern imaginings of the self. The early modern period is shown to stand in between: as a refutation of the "premodern" and "posthuman" (p. 20) notion of the self as extending beyond the envelope of the skin, to include not just language and comportment but also artefacts, spaces, places and objects. The fantastic and "alarming" (p. 31) imaginings of those neuroscientists, cyberneticists and philosophers of mind who suggest "embodiment, embeddedness and distributed capacity" (p. 23) are shown to be unsettling only from the liberal humanist perspective that we have inherited from the early modern period. Keller convincingly demonstrates this to be so through a lucid survey of some recent critical work carried out within cultural and science studies, which she compares to Galen's writings upon a materially-dependent soul of multiple components. The contrary humanist self is a "disembodied, vacuum-sealed centre of cognition and volition" (p. 44)

and an enduring legacy of early modern thought. Keller's finely detailed investigation of vernacular medical texts in a variety of genres explicates the invention of this all-too-familiar self through the thought and practices of early modern physiology, anatomy and what we now call gynaecology and obstetrics. These practices produce an asymmetrical gendered human being. The materiality of the male serves his unified and disembodied supervenient self. The materiality of the female is a definitional body part (the womb) that her self is more or less continuous with. Keller's concrete examples of seventeenth-century anatomical theories and practical physic for women evidence the success of such thinking, which survived the decline in Galenic models in favour of chemical medicine and mechanical philosophy. Although an enduring "thought style" (p. 13), to use the phrase Keller adopts from Ludwig Fleck, this gendered subjectivity was also problematic and troubling. For Keller, both the heroic and idealized images of masculinity and the investigative methods of the physician, the anatomist and the microscopist were fabricated in response to the perceived inadequacies of paternity and patriarchy. In the field of embryology, for example, animalculist theory is championed over ovist theory because it posits an independent, unified and self-affirming miniature person empowered—from the moment of his conception—to direct his own course. The autonomy and self-determination of the seventeenth-century self was threatened, she tells us, by mechanical conceptions of human physiology. The human machine is "a living object acted on by forces beyond its control" (p. 154). Thus, in response to this, the human is claimed as more than a machine.

The final chapter of the book is located in the birthing room and provides a refreshing alternative to the often-rehearsed account of the rise of the man-midwife as either a triumph of scientific reason over ignorance or as the forcible ejection of capable female practitioners by "self-serving and avaricious" men (p. 160). Keller does not view such

accounts as wrong, but rather as inadequate and partial. Her focus is upon specific and singular events that enable her to examine the rivalries and negotiated divisions of labour, so to speak, between the midwife, the surgeon and the physician in the early eighteenth century. For Keller, this is far from being merely a battle of the sexes. However, despite Keller's assertions to the contrary, there is some sense throughout this book of early modern aims regarding the self as having an epistemological and political essence: one of patriarchy as an organizing and orientating means for us to understand what happened and continues to happen when medicine addresses generation and childbirth. It would be fascinating to see explanations of how gender was assembled and distinguished that do not assume underlying and pre-given interests: those of males. None the less, *Generating bodies and gendered selves* is a brilliant example of how early modern history can benefit from a thorough and sustained engagement with the best scholarship in the fields of cultural theory and science studies.

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**Alfons Zarzoso**, *L'Exercici de la medicina a la Catalunya de al Il·lustració (segle XVIII)*, Manresa, Publicacions de l'Arxiu Històric de les Ciències de la Salut (PAHCS), 2006, pp. 184, illus., no price given (paperback 84-611-2808-7).

This book won the Catalan History of Medicine Prize "Oleguer Miró i Borrás" (2005), awarded by the Barcelona Medical Council (Colegio Oficial de Médicos de Barcelona), which publishes the prize-winning works in the Publicacions de l'Arxiu Històric de les Ciències de la Salut series. Alfons Zarzoso specializes in the study of medical practice in Catalonia in the eighteenth century. This was also the subject of his doctoral thesis, *La Pràctica mèdica a la Catalunya del segle XVIII* (2003).

Following an introduction to the historiography of medical pluralism during the final period of the Ancien Régime, Zarzoso analyses medical practice and the relationship between society and physicians by studying the contracts of these professionals with the town councils and the mutual aid associations. He studies the extent to which university-taught medicine was introduced in eighteenth-century Catalonia, and how this reflects the political changes caused by the War of the Spanish Succession (1702–1713). The disappearance of the Estudio de Barcelona and the establishment of the University of Cervera by the new Bourbon dynasty marked a change in the choice of university by medical students: thenceforth most Catalanian students (55 per cent) graduated from the University of Huesca, compared with 28 per cent from the new University of Cervera. The remaining 17 per cent attended other universities such as Saragossa, Valencia, Orihuela, Gandía or Montpellier. But the establishment of the Royal College of Surgeons of Barcelona in 1760 meant that Barcelona became the centre for the teaching of surgery.

Zarzoso's analysis of the medical professionals in the province shows that, during the eighteenth and well into the nineteenth century, as a consequence of the system of *conducció* or *contractació*, university-taught physicians were present in rural areas. Under this system, the municipalities of the Crown of Aragon contracted physicians as well as surgeons and apothecaries specifically to work in the countryside, thus guaranteeing health care even in remote areas. The economic and demographic growth of Catalonia in the eighteenth century led to an increase in the purchasing power of the town councils and of the population in general, and so also to an increase in the medicalization of society.

The author reviews the documentation between 1722 and 1820 preserved in the Archives of the Real Audiencia relating to the municipal medical contracts. The result clearly shows the regulatory mechanisms for health care professionals, physicians, apothecaries

and surgeons, and presents a social reality which goes beyond the world of health care.

The final section of the book and the appendix deal with the mutual assistance societies in Barcelona at the end of the eighteenth century. The demographic changes in the city, mainly among the working class, improved living standards and led to the development of institutions and associations which, in different ways, combined religious customs, subsidies and medical assistance in illness and death.

The archival material used in the book to explicate the development of the health care professions and the organization of medical assistance, draws us closer to a rich reality which, although somewhat similar to that of other areas, also reveals idiosyncrasies which are crucial to an understanding of eighteenth-century Catalan medical practice.

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**David E Shuttleton,** *Smallpox and the literary imagination 1660–1820*, Cambridge and New York, Cambridge University Press, 2007, pp. xiii, 265, illus., £48.00, \$85.00 (hardback 978-0-521-87209-6).

Uniting their forces, it seems, by sheer dint of scholarly writing, literary historians of the last generation have rewritten the cultural profile of numerous diseases: cancer, consumption, gout, heart disease, obesity and others. David Shuttleton, a literary historian interested in the interface of literature and medicine, has rounded out this record with his fine study of smallpox's profile in the eighteenth century, its most transformative epoch before inoculation and vaccination turned around its fortunes after 1800. Shuttleton revises smallpox's harsh realities, social effects, and especially its verbalizations and mentalizations by onlookers, close and distant.

Smallpox's narrower medical history is, of course, far from certain. Identified in the ancient world, first described by the Arab

physician Rhazes, and distinguished from measles by Fracastoro, its progress from the Middle Ages to 1600 still conceals mysteries. What can safely be affirmed is that by 1700 it was killing many thousands each year: the scourge from which the eighteenth century could never be free. Jenner's vaccinations at the end of the century, building on Lady Mary Wortley Montagu's earlier inoculations, were the Enlightenment's best hope for prevention. But the resistance to inoculation was immense. It was only when empire and imperialism in the Indian subcontinent made plain that smallpox would become a menace as dire as cholera, that the benefits of vaccination were securely applied.

"Medical history" is a smaller field than "medical profile", which extends to a malady's public understanding: here think of mental illness and AIDS. Shuttleton appropriately begins with this larger, bewildering profile in mind and augments our sense of smallpox's cultural casualties. A scourge that disfigures its victims through visible sores, scars, and red spots erupting hot pus will be moralized despite attempts to neutralize the condition.

Yet if disease clusters possess inherent symbolic resonances, as cultural historians have been demonstrating for three decades that they do, smallpox's salient sign was disfigurement: disfigurement more than death. This perception did not sit easily with a Georgian civilization steeped in the lure of widely disseminated cults of beauty—aesthetic, physical, moral and sublime—and beauty's opposites in the realms of the ugly and grotesque. Historians have interpreted much Enlightenment culture through this specific opposition. Yet read the pathetic accounts of those dying of smallpox and the horror of disfigurement terrorizes them far more than death does.

If obesity in our time has become the site of fiercely contested debates trading on our obsession with symmetrically trim bodies—so slim that they are often anorexic—smallpox before 1800 took a similar toll on the faces and figures of women and men, rich and poor.

Shuttleton's accounts are often riveting, demonstrating the part played by imagination in the framing of this condition, especially the literary imagination that conceptualizes malady by first verbalizing it.

This is not another pedestrian representation of a disease cluster: Shuttleton also embeds perplexing philosophical dimensions of "representing malady"—its degree of stigma—and takes sides in the ongoing debate about the need for demystification. Students of medical history know how assiduously Susan Sontag campaigned in the 1980s to demystify disease, which (in her view) should be a scientific category rather than moral sign or cultural stigma. Her aim was noble and eloquently argued, but history from time immemorial—continuing into the present—weighs against her position. People have always given meaning to disease; infected individuals cannot refrain from attaching morally loaded significance to their maladies that exceed the limits of the pathological signs and literal physical symptoms. For centuries smallpox was living proof of the moral tendency rather than its exception, just as psychological depression is today.

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**Lucy E Frank** (ed.), *Representations of death in nineteenth-century US writing and culture*, Warwick Studies in the Humanities, Aldershot and Burlington, VT, Ashgate, 2007, pp. xii, 234, illus., £50, \$89.95 (hardback 978-0-7546-5528-2).

Like many scholarly works on death in the nineteenth century, Lucy Frank foregrounds the introduction to this diverse and engaging collection of essays with reference to Phillipe Ariès's pioneering text *The hour of our death* (1981). As Frank notes, Ariès's attempt to write the history of death in western culture from the Middle Ages to the twentieth century

necessitated a degree of generalization even though he acknowledged historical and national differences. Thus, while Ariès cast American attitudes towards death as an extreme example of western morbidity, he failed to engage with the multiple cleavages within, and complexities of, US society. This volume seeks to redress Ariès's omission by extrapolating and understanding marginal and contested cultures of death in nineteenth-century America.

The volume is divided into three parts. Part One examines the relationship between political agency and discourses of death, mourning and remembrance. Most of the essays emphasize the distance between an African-American politics of mourning that sought to remember the losses and deathly effects of slavery and a notion of a "national" culture of loss, a difference exemplified in Dana Luciano's chapter on responses to the death of President Lincoln. Similarly, discussion of racial differences in modes of mourning is underscored by analysis of the flimsy value attached to African-American mortality by white writers and attempts to challenge perceptions of black mortality by commentators such as W E B Du Bois and Charles Chesnutt. Despite the emphasis on difference in this section, an examination of the legendary speech by Native American Chief Seattle argues for recognition of liminal texts of loss that serve as a middle ground between diverse cultures of mourning and sensibility. Part Two focuses exclusively on poetical works and is concerned primarily with gender and loss. Two engaging chapters on child mortality offer critical reflections on the assumed feminization and mawkishness of mourning in the nineteenth century and the difficulties of negotiating Evangelical models of bereavement. Part Three considers the social rituals and popular discourses surrounding death, such as the use of mourning wear to perform grief, and the appeal of the supernatural to an audience saturated with death in the Civil War.

The literary and cultural emphasis of the essays will appeal to inter-disciplinary



interests. Whilst there is little by way of “medical” history, contributions on suicide in the social realist novel, the deathly sexuality of femininity, perceptions of mortality rates and responses to bereavement and the afterlife provide informative and critical contexts for consideration of the social meanings attached to dying, death and grief. The emphasis on the specificity of US cultures of death will hold obvious appeal to scholars of American history and many of the chapters assume a degree of pre-existing knowledge. None the less, the relevance of this volume extends beyond the US. Evaluations of reformist agendas on death and social class have a broad relevance to considerations of death in other industrial societies. Likewise, the essays repeatedly situate cultural modes of mourning in relation to the Civil War. Given that the relationship between the Great War and European cultures of death has received so much critical attention, reflections on the impact of the Civil War on US cultures of death offer some revealing comparisons on modern societies’ commercial, cultural and emotive responses to mass bereavement and new technologies of killing. Similarly, in privileging marginal stories, the volume addresses questions concerning identity and the universality of grief. As the essays indicate, an individual loss often provides a base from which to claim sympathy with the mourning of others. Yet race, class and gender consistently feature as obstacles to empathy as some deaths and sensibilities are valued more than others. In turn, cleavages in cultures of feeling reinforce and perpetuate the differences that languages of universal loss and national cultures of death would seek to deny.

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**Noga Arikha,** *Passions and tempers: a history of the humours*, New York, HarperCollins, 2007, pp. xxi, 376, illus., US\$27.95, Can.\$34.95 (hardback 978-0-06-073116-8).

This is an ambitious and expansive history of the humours—of blood, yellow bile, black bile and phlegm—from the classical world to the present day. Arikha’s argument is clear: “our various humours are keys to the map of our psyche” (p. 291). The peculiar blend of psychological and physiological characteristics that make us human, and individuals, has historically been understood through the explanatory power of the fluids that move around the body, and (crucially) between the mental and the physical realms. In the process, “the original four humours imagined by the ancients have been multiplied by the hundreds into hormones, enzymes, neurotransmitters, particles, and the like” (p. xix). Notwithstanding Cartesian philosophy and microbiology, the explanatory power of the humours remains intact.

Arikha’s approach is enthusiastic, combining literary and medical texts, and she demonstrates a keen grasp of classical and early modern theories of the body and its workings. Despite its intellectual ambitions, however, this book is above all else a good summary of Galenism and its application throughout a range of medical theories and practices. There are times when Arikha’s broad brush-strokes are insufficient to deal with specificities—the cultural meanings of the humours as material entities, for instance, receive little attention. An example of this is the simplicity with which she deals with blood as just another humour that “served the same explanatory functions as those fulfilled by humours”, rather than asking exactly *why* and *how* it was regarded as “the engine of life” (p. 190).

In many ways, Arikha’s insights are correct—humoral interpretations of the body have survived for centuries as metaphors for personality types and in concepts of balance for explanations of health and disease: one need only think of the thriving alternative (now complementary) therapy movement, and a variety of non-western traditions that similarly strive for holism. And yet there is nothing particularly novel about this observation: it is an example, if ever there was

one, of Roy Porter's classic reference to "old wine in new bottles". It is also instructive that Arikha's approach to the modern period is far more selective than her approach to earlier periods, when it is easier to make things "fit". There is no reference in her linear narrative to evolutionary biology, to experimental physiology, or to anything that lies beyond the scope of her reading of the humours as a lesson in the preservation of mind/body holism.

There are additional methodological problems above and beyond Arikha's limited source base and selectively chosen "ologies". One difficulty is her lack of engagement with the burgeoning growth in emotion history and emotion theory over recent decades, according to which it is insufficient to talk about emotions as entities that are "in there" and that could be entirely understood if only we had the right tools to "get them out". Emotions are generally regarded as something other than "functions of our evolved physiology" (p. 282). Furthermore, we can no longer legitimately use the terminology of "passions" and "emotions" interchangeably and without reference to their historical and epistemological context.

A related problem concerns the discrepancy between the historical sensitivity that Arikha demonstrates in her explication of historical texts, and the presentism with which she addresses modern medical knowledge. Or more specifically, how she prioritizes certain forms of knowledge over others. Because her argument needs to harness neuro-humoralism,

she places considerable emphasis on modern neurobiological thinking about such concepts as "emotion" (p. 275), "consciousness" (pp. 23–4) and the "self" (pp. 280–1) as linked to the soma, and uses the works of Antonio Damasio, in particular, as evidence of the "gut-level emotive responses without which we seem unable to function" (p. 282).

There is a lack of theoretical analysis in Arikha's approach to these accounts, as though constructions of scientific knowledge *as constructs* must not, in this case, impede the meta-narrative of continuity amidst change. What is ultimately frustrating about the book, therefore, is that Arikha engages with the principles of scientific knowledge itself less as an act that shapes meaning and experience than as an objective yet flawed and collective endeavour to *get it right*. Consequently the book turns out to be more about medical "mistakes" than beliefs, and above all else the pursuit of some elusive truth. According to the author, "the book concerns itself primarily with our capacity to make mistakes even when our questions are right". And why is this so? "In a sense, we are all children in our relation to scientific information" (p. xx). Is this really an accurate assessment of the maturity of the histories of science and medicine in the twenty-first century? If so, maybe it is time to grow up.

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